to flow in a continuous cascade from the many openings into the tank. On this side the aqueduct is divided into four channels, which are distinguished in the plan by figures. The portion A1 led round the building C, and fed the nearest inlets, as was demonstrated by experiment. The portion A2 passed through the middle wall of C by a pipe, presumably to feed the central part of the cascade; and the portion A3 returned round the other end of the building, and headed for the nearest pair of inlets on that side, being traced at one point as a brick pipe lined with iron. The fourth branch A4 was brought down as it neared the bath to a lower level, and fed the gargoyle in the corner. The other walls of the bath are not preserved, but there is a distinct suggestion that, at any rate, the opposite side was fed in similar fashion from the system of aqueducts marked GG, which have not as yet been completely traced. The exact significance of the well H has also not been ascertained.

The southern wall of the swimming-bath is so well preserved that its original decoration largely remains *in situ*. Between the water inlets there may be seen in the photograph, Plate VIII, a series of glazed tiles, medallions and other devices, the fore-parts of alternate lions and bulls sculptured in stone; and above them, on the plastered surface of the wall, are the traces of frescoes, among which two serpents and the legs of an elephant may still be recognised. There are also the pedestals of two or three statues standing along the wall, and the greater portion of a hound carved in stone. The head of the dog was recovered; and it was also found possible to restore the central statue, which proved to be the representation of a harpist; and to replace the head on the left-hand sculpture, the subject of which is a musician playing the pipes. In the well of the bath the figure of a third musician was found, a flute player, and also the portions of numerous other statues. These included a local VENUS, a reclining figure in the pose of the Vatican GOD-OF-THE-NILE, a seated figure, clad in robes, holding a scroll, and several others.

In other portions of the building considerable fragments of statues were freely brought to light, and doubtless the number will be added to as the excavation proceeds. Some of these are of distinct merit as artistic products. We must also mention two statues which were discovered in the last days of the previous season, in a small chamber (near to the well W), which had intruded itself into the neighbouring corner of the palace enclosure, No. 295. These have been restored and placed in the museum at Khartoum. (See Plate IX.) They represent a man and woman; the latter may have been carrying a water pitcher on her head, and the man labouring at the well. That the woman really carried some object on her head is proved by the traces of an actual attachment for that purpose, but possibly it was for a smaller object, such as a lamp.

These Baths, with their decorative features, may be regarded as typically Meroitic. Nothing that had previously been found throws so much light upon the characteristics of the local arts of the period or periods they represent. The main structure of the bath we believe to be more or less contemporary with the adjoining palace, about the 2nd or 3rd century B.C.; but it was partly reconstructed, it would seem, about a century later. The sculptures seem to group themselves into these two periods; the one set, which is not numerous, of almost purely local conception, like the two figures last described; the other, which is the more common, derived from classical motives. These are clearly all of local execution, and in many cases somewhat crude. But there are some exceptions:—a few of these carvings, doubtless also local products, are full of vigour and character, and not without signs of form and grace; notably the head of a SATYR (or more strictly a SILENUS), the torso of a draped standing statue which is not here reproduced, and details in the execution of the flute player. The last-named is, unhappily, so much broken that a photograph hardly conveys a faithful impression of its quality. The torso of a male figure clad in a tunic and holding his robe over his left arm, recalls strongly the Vatican AUGUSTUS, and suggests a still later period for some, at least, of these sculptures.

The main building which we last described had been very much confused and disturbed by another of rough stone and rubble, which lay across it. This is shown in the plan (Plate VII) by dotted lines, but in the general plan on Plate VI its character may be better seen. It suggests a series of barrack-rooms, hastily built. There was also one wall of good stone work later than the baths in date, and extending from the main wall of the city towards the palace, 295; it has still to be traced further. The walls of the baths present several different features, doubtless accounted for by periods of restoration. Those which we are inclined to think the earliest are built of small slabs of stone like the foundations of the adjoining palaces, while the later and more prominent walls are those built of solid red brick, and those with red brick facings but mud brick core. A third distinct period is represented, built in brick above these, but it is not important at the present moment to describe its remains, and we have omitted these from the present plan to avoid further complication. The last period, that of the rubble-stone walls, clearly belonged to a time when the city wall was already in ruins, for they may be seen stretching out over and beyond the old city boundary.

General Conclusions

Looking broadly at the results obtained during these three seasons of excavation, it now becomes clear that there are three main periods represented in the buildings which have been excavated, each one probably to be in its turn subdivided as work proceeds. The first is that of the original conception of the Royal City in the 7th or 8th century B.C.—the age of Aspelut, Hor-ma-tileq and Mal-neqen. To this date belong the great buildings in stone,—the walls of the city, the original portions of the Royal Palace, 294, and of the audience chamber 292, the so-called Taharqa building, 296, and the low-lying columns found this year in Block 199. The early wall below the baths, mentioned above, must also belong to this time. Alike from actual evidence, as from type of structure, the Sun-Temple must be assigned to this date, for in its courtyard was a broken inscription of Aspelut. To this period also belongs the earliest building in the Temple of Isis with its giant statues, and probably the building of the Lion Temple and the small shrine (No. 70) adjoining it. In this age, Egyptian motives in art and probably in culture were still predominant. The next period is distinguished by the supplanting, about the third century B.C., of Egyptian ideas by Greek; as witness a small cameo of galloping horses found last year and the semi-classical statues just described. In construction, solid stonework has given way to foundations of stone slabs and walls faced, at any rate, with red brick. The buildings of this age must include the Baths, the later Temple of Isis, and probably the small classical temple. The Temple of Amon we presume to have been built earlier, but to have been now reconstructed. The facts connected with the rise of this period seem to accord well with the tradition of Ergamenes given by Diodorus. There arose upon this basis, as a second phase of its middle period, the great days of Meroë, associated in tradition with the Queens Candace, lasting till the first century A.D. To this time belong nearly all the distinctive objects of pure Meroitic origin, such as the fine painted and stamped pottery, the glass and decorated tiles and so forth. The third phase is one of decadence, and, so far as it can be recognised at present, seems to be distinguished rather by Roman than by Greek ideas in art, but the buildings of the time are comparatively crude and lack distinction. In the middle of the fourth century A.D., however, the city still maintained its importance; and it was deemed the worthy objective of a military expedition as late as the seventh century; so that further examination has much to disclose as to the character of Meroë in its later history.

Chronological Summary

Summarizing these tentative conclusions we have, in the now familiar terms:—

Early
Meroitic
B.C. 700—300.

I. The Royal City (290): Stone walls, Foundations of Palace 294, of audience chamber 292; of the 'Taharqa' building 296; and the low-lying columns, 199.
Temp. Aspelut.
The Sun Temple; Lion Temple and Shrine (70).
Original temple of Isis, with giant statue columns.
[Characterized by ashlar masonry; tombs of early iron age; red and black wares in pottery, plain. Meroitic hieroglyphic inscriptions.]

II. Temple of Amon (possibly enlargement and partial reconstruction).
Palace partly underlying 295.
Some chambers reused later in the Royal Baths.
Some isolated foundations.
[Characterized by stone-slab foundations, carried up in brick; Tombs of developed iron age; tendency to decoration on red and black pottery wares, by white lines or incisions. Meroitic cursive inscriptions.]

Middle Meroitic B.C. 300—100 A.D.	I. Royal Palaces 294, 295. Royal Baths 194, etc., (*Temp. Ergamenes.*) Audience chamber 292. Pottery and Brick Kilns. [Characterized in construction by red brick walls; in art by introduction of Greek motives; the beginnings of thin decorated wares in pottery; Meroitic Inscriptions.] II. Classical temple, reconstruction in baths and over the temple of Isis. Partial reconstruction in palace 295. [Period of quasi-classical statues. Full development of Meroitic pottery wares, faiënce and glass.] III. Head of Augustus, Torso of Augustus, Roman baths, Palace 750. Graeco-Roman inscription.
Late Meroitic A.D. 200—700.	I. Characteristics not clear; Roman influence presumed. Invasion of Axumites, about A.D. 340. II. Destruction of Meroë, about A.D. 700.

THE LINEN GIRDLE OF RAMESES III

By THOROLD D. LEE, B.Sc.

Among the objects comprising the collection bequeathed by Mr. Joseph Mayer to the Liverpool Museum in 1867, was an ancient Egyptian girdle (Inv. 11,156), which has been on exhibition ever since: it appears, hitherto, to have escaped the attention it deserves, both from Egyptologists and those interested in the history and development of the art of weaving.

In the Autumn of 1911, Professor Newberry, who was at the time re-arranging the collection of Egyptian antiquities in the Museum, noticed that this girdle was of exceptional interest and importance on account of the fact that a pattern was woven into it, and that it bore the name of Rameses III written upon it. The oldest known examples of fabrics bearing a woven design are the fragments of tapestry that were discovered in the tomb of Thothmes IV at Thetus, and date from about 1500 B.C.; and the next most ancient examples, hitherto known to exist, were found in the Crimea, and date from about 400 B.C. The girdle that is the subject of this paper dates from about 1200 B.C., and would, therefore, be of exceptional interest even if it were only a figured tapestry, as are the specimens referred to above. It is, however, of a much more complicated structure, and shows, indisputably, that even at that early date the Egyptian weavers were possessed of a very considerable skill in the technique of their art, and built and used looms that were much more complicated than has hitherto been believed to be the case.

The girdle measures 17 feet in length over all, and in width tapers evenly from 5 inches at the wider to $1\frac{7}{8}$ inches at the narrower end. It is woven with the warp, or longitudinal threads, running along its length, the selvedges forming the upper and lower edges. In order to prevent the ends from fraying out, the wider is bound with a braid, made of the same thread as is used in the cloth itself, formed into a loop at each corner, while at the narrower end the warp threads are plaited together in a cord or fastening.

The material of which it is composed is linen, and the object in adopting the method of weaving that has been used, has clearly been to make the cloth as firm and, at the same time, as pliable as possible. The result has amply justified the complicated nature of the weave, for the girdle feels compact and unlikely to work into a rope when worn, while its smoothness and pliability to the touch remind one of a snake's skin. The number of colours used is five, blue, red, yellow, green, and the natural shade of the undyed linen, and, although in places they have faded almost to the point of being indistinguishable from one another, yet, on the whole, they appear to have stood the test of time very well. The green colour is only used in one or two places, and there, only in small spots, so that it is not noticed until the girdle is closely examined.

The illustration shows the nature and arrangement of the pattern. The white stripe down the centre, which is 1⅛ inches wide at the wide end of the girdle, is completely eliminated at the narrower end. About 12 inches from the wide end, the cartouche of Rameses III has been written in a black or dark brown ink on the girdle, in the middle of the white stripe. The ink used, appears to have damaged the linen, and this accounts for the fact that there is a hole in the girdle at this point, but, fortunately, the damage has not entirely obliterated the cartouche, which is still decipherable.

The condition of the girdle is remarkably good for, with the exception of the hole mentioned above, and one or two cracks and places where the edge is ragged, it is a perfect specimen.

The thread of which it is composed is threefold,* and the same thickness appears to have been used for warp and weft. A careful computation of its thickness, calculated from the weight of the girdle (about 11½ oz.) and the length of thread required to make it, gave a count of threefold 105 lea, linen scale. It is very evenly spun, and still has a considerable amount of strength in spite of its great age. For the benefit of those not acquainted with the linen scale, it may be said that one pound weight of single 105 lea thread contains a length of about 18 miles, the 'threefold' being about the thickness of fine sewing cotton.

---

* A threefold thread is one that is composed of three fine threads twisted together just as a rope is composed of several strands. The first process in its manufacture is the spinning of the fine single thread, three threads of which are then 'doubled' up, to form the threefold thread.

The girdle, as has been stated above, has been woven with the warp threads running along its length, while the weft threads, those that are carried by the shuttle, pass across it from side to side. The warp threads have been dyed to the various colours that compose the pattern, and lie so closely beside one another as to cover the weft threads completely. These latter are of undyed yarn, and count on the face about 30½ to 1 inch. As the cloth is a double one, a different set of weft threads weaves the back from those used for the face, so that we have about 61 threads of weft to the inch in the complete cloth. The warp threads count about 68 to the inch on the face, and as there are two different qualities or weaves of cloth in the girdle, as will be explained later, one of which requires four threads, and the other five, for each thread shown on the face, we find there must be no fewer than 272 threads of warp to 1 inch, in some parts, and as many as 340, in other parts. It is to the great quantity of yarn that is used to make it, that the cloth owes its firmness, while the method of arrangement of the threads accounts for the fact that it is so wonderfully pliable.

Much as the interest of this remarkable specimen may appeal to the general observer, it is not until we come to examine its structure that we discover the most remarkable points about it, for by doing so, we are able to deduce the method of its weaving, the really complicated form of loom used, and the great ingenuity displayed by the weaver in obtaining his pattern.

The structure or design* of a cloth is not an easy matter to explain to a person unacquainted with such matters, the usual terms and diagrams being almost incomprehensible to the unitiated, but in the present instance, the design, or rather designs, are so ingenious that it may be worth while describing them in a somewhat more elementary manner than would be necessary to explain them to a weaver, in order to enable the non-technical reader to understand them, should he wish to do so.

In weaving such a cloth as the one we are considering, the warp threads, all being laid parallel with one another, are stretched on the loom, being wrapped round a roller at each end or secured in some other way. The weaver first draws a certain number of them forward, and then passes the weft thread across, between the warp threads that he has drawn forward and those left lying behind them. Let us suppose that all the warp threads are numbered consecutively, starting from number one at one side of the loom, and that to begin with, all the odd numbered threads are drawn forward and a thread of weft is woven in, then all the even threads are drawn forward and another thread is woven in, and this process is repeated again and again, first the odd and then the even threads being drawn forward. The cloth that will be woven will be of the simplest design that can be imagined, being the same as plain calico, or plain tapestry cloth.

---

* Note.—Throughout this paper the term 'design' is used to refer to the plan or arrangement of threads composing the cloth irrespective of their colour, and by the term 'pattern' is implied the zig-zags, stripes, etc.

If, after having woven some of the cloth, we were to dissect it by cutting it up along the line of the warp, the section showing the odd warp threads would be as follows—the dots representing the section of the weft threads—

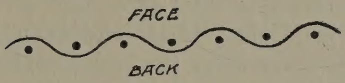


Fig. 1.

and the even warp threads would appear thus—

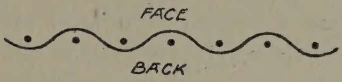


Fig. 2.

while a diagram of this kind

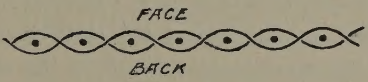


Fig. 3.

would represent the complete cloth, and would show that it was woven on a design that required two warp threads, and two threads of weft, to complete it.

Now it was found by examining the plain white stripe up the centre of the girdle, at a place where it was torn, that the arrangement of the warp threads was as follows, though of course the diagram shows the effect very much enlarged, the actual size of the section shown in the diagram, covering in the cloth only one-third of an inch.

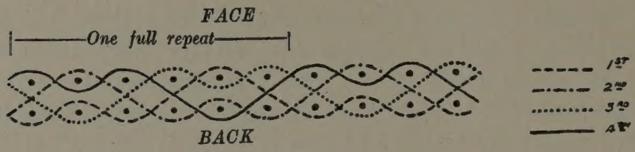


Fig. 4.

It will be noticed that four warp threads are required to make this design, and they have been indicated differently, in order to show the order in which they occur. It will also be noticed that this design shows a double cloth, one set of weft threads being used to make the back and another set being used for the face of the cloth, and that the design repeats on twelve threads of weft, six back, and six face ones.

If, in the cloth, all the warp threads were of the same colour, and were so close to one another as to hide the weft entirely, the effect would be a plain cloth of uniform colour, and this is what we see in the white stripe down the centre of the girdle, as well as in the plain blue and plain red stripes that lie next to it on either side.

Among the different patterns to be found on the girdle it will be seen that there are a number of stripes, consisting of spots of various colours. There are eight of these in all, four in each border, six of them being the same on one side of the cloth, reading white, red, white, blue, white, blue, this pattern repeating again and again. Now it will be seen that if the 1st and 4th warp threads in the diagram were white, and if the 2nd was red, and the 3rd was blue, the effect on the face of the cloth would be a series of spots in exactly the arrangement found in the stripe referred to. If, however, we examine the effect of such an arrangement of colours on the back of the cloth, we shall find that the pattern is not the same, as it will read, white, blue, white, red, white, red, having two spots of red and one of blue, to the two blue and one red on the face.

An examination of the cloth showed that this was actually the pattern given by five of these stripes on the back, but the sixth stripe, one of those on the outside edges of the borders, gave exactly the same design on the back as on the face. The other two spot stripes read thus, yellow, green, yellow, blue, blue, blue, being the same on both back and face, and it will be seen that it is impossible to get this pattern by any arrangement of the colours of the threads, if woven on the design given above.

It will therefore be seen that the design with which the white centre stripe was woven could have been used to weave the two inner spot stripes and three of the outer ones, and an examination of a place where it was possible to see the arrangement of the threads on one of the stripes proved that this was the case, so that after the weaver had once arranged his warp threads so that, of each set of four, the first and fourth were white, the second was red, and the third was blue, all he would have to do would be to weave along on the same design as given above, and spot stripe would be produced; while, where all the threads were white, red, or blue, a plain coloured cloth in white, red or blue would result.

An examination of the texture of the girdle shows that the centre section out to the inner spot stripes, and one of the outer edges, is thinner than the rest of it, this thicker part being uneven, having distinctly marked ridges running across it as though every fifth and sixth threads of weft were thicker than the others. Most fortunately a portion of the edge of the girdle, at which this unevenness occurred, was damaged so that it was possible to find out the design of this uneven part. The design may be represented as follows:—

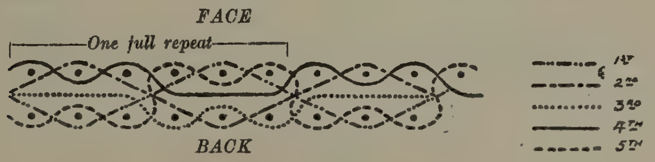


Fig. 5.

It will be seen at once that whereas this design resembles the former one in that it repeats on twelve threads of weft, six face and six back, yet it requires five threads of warp instead of four. If the first spot stripe is again considered it will be seen that we can obtain it by the use of this design if the first, third, and fourth threads are white, the second is red, and the fifth is blue, and it will be noticed that with such an arrangement the back and face will both give the same pattern.

It will also be seen that the spot stripe, yellow, green, yellow, blue, blue, blue, which could not be obtained with the other design, can be obtained with this, and also gives the same pattern on the back of the cloth, this being the case in the girdle.

We now come to the examination of the other patterns, of which there are two, and as a moment's consideration will enable one to see that if one of these can be woven by this design, the other can also, it will only be necessary to explain one.

Taking the zig-zag pattern, it will be seen that it consists actually of only three different spot stripes arranged below one another so as to give the effect required. Of these, two are really the same as the two that we have considered so far as arrangement goes, marked Z and Y, though the actual colours used may be different, and the third one, marked X, reading blue, white, blue, blue, blue, blue, can be obtained by having the second thread of each five, white, and the rest blue.

The diagram shows the zig-zag pattern. The letters show how each section or step may be read as a spot stripe, and the table shows the colours of warp threads that must be used for each of the group of five, required to complete the design of the cloth.

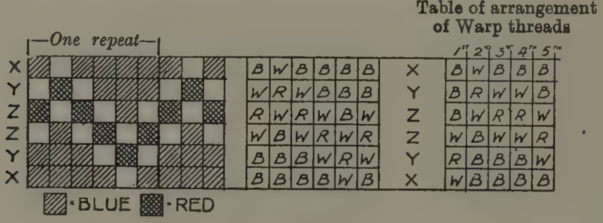


Table of arrangement of Warp threads

							1st	2nd	3rd	4th	5th
B	W	B	B	B	B	X	B	W	B	B	B
W	R	W	B	B	B	Y	B	R	W	W	B
R	W	R	W	B	W	Z	B	W	R	R	W
W	B	W	R	W	R	Z	W	B	W	W	R
B	B	B	W	R	W	Y	R	B	B	B	W
B	B	B	B	W	B	X	W	B	B	B	B

FIG. 6.

It will therefore be seen that this zig-zag pattern can be woven just as simply as the spot stripes first considered, so that when the weaver had once fixed up his loom he had no further need to pay any attention to the pattern, which came up automatically, and it can easily be seen that the other pattern can be accounted for in the same way. This design on five warp threads is therefore proved as being the one required to weave the parts of the girdle that could not be woven by the design on four warp threads, and anyone with any knowledge of weaving will at once see that the five-warp-thread design will cause the ridges referred to above, on account of the uneven way in which the double cloth formed by it, is bound together.

With reference to the back of the cloth, the following diagram shows the effect that would be obtained on the reverse side, by the same arrangement of the warp threads as used for the face in the table above.

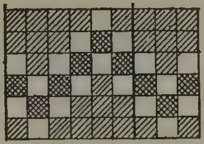


Fig. 7.

This diagram represents the back of the cloth as it would look if it could be viewed through from the face, and it will be seen that the pattern is all moved along three weft threads, so that the 'Zig' appears at the back underneath the spot where the 'Zag' is, on the face, and this corresponds with arrangement of the design as found on the cloth itself.

We have now proved the designs in which the girdle is woven, and seen how, by a complicated draft, or arrangement, of the various coloured threads, the different patterns were all produced automatically as long as the weaver continued to weave the cloth according to the two designs that we have seen were used. The drafting of the warp for such a pattern as this will readily be understood to have been a matter requiring the greatest patience and accuracy, when it is remembered that there were about 340 threads to the inch in some parts, but even after the warp was set up in the right order, the weaving of it would be a matter of very considerable difficulty, and one calling into play all the skill of the weaver.

In the weaving of the simplest form of cloth as referred to above, we have seen that the weaver draws forward the alternate warp threads before passing the weft through. In the most primitive form of loom this is done by hand, each thread being picked out and drawn forward separately, or the needle, or shuttle, carrying the weft is threaded up and down across the warp exactly as in darning.

It will be readily seen that if there are a large number of warp threads, the speed of weaving will be very slow indeed if each one has to be picked out by hand, so that an arrangement of what are known as lisse threads was adopted at a very early date, being shown in use in a picture of an Egyptian loom dating back to about 3000 B.C. These lisse threads consist of a large number of short threads of even length, having a loop at one end, and being attached at the other end to a bar of wood or a string stretched across the loom. To set up a loom to weave plain cloth, two sets of lisse threads might be used. The even warp threads would be threaded through the loops in one set while the odd warp threads would be threaded through the loops in the other set. All that would now be required to prepare for the passage of the weft would be to pull forward one of the sets of lisse threads which would draw forward all the odd or even warp threads as the case might be. After the weft thread had been put in, the set of lisses that had been pulled forward would be allowed to fall back and the other set would be drawn forward to prepare for another thread of weft.

As the design of a plain cloth such as we have been considering repeats on two warp threads, only two sets of lisse threads are required to weave it, but in the case of the girdle part of it is woven with a design that repeats on four warp threads and part with a design that repeats on five, so that, as the whole nine work quite independently of one another, nine sets of lisse threads, at the least, will be required to weave this cloth.

It is hardly conceivable that in weaving this girdle the various warp threads were picked out and drawn forward by hand before each thread of weft was put in, for owing to there being as many as 340 of them to the inch in some places, many of them would be completely hidden and buried among the others, and to pick out the right one would be a matter of the very greatest difficulty such as would baffle the most painstaking and patient of mankind.

Knowing that the use of lisse threads was understood at the time that this girdle was woven, and appreciating the practically insuperable difficulties in the way of picking out the design by hand, we should be justified in assuming that lisse threads were used, even if there was no direct evidence to prove the assumption. There is, however, very conclusive evidence, in the nature of the faults that occur in the girdle, which are such as would be made by pulling forward sets of lisse threads out of their turn, for the faults repeat the whole way across the cloth.

There is one fault in the weaving that is of very particular interest, and which may best be illustrated by the way in which it effects the zig-zag pattern. On one side of the cloth it is not visible, but on the other side the zig-zag pattern appears thus:—

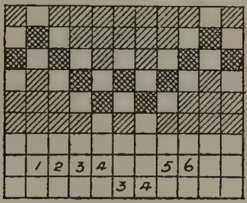


Fig. 8.

If the girdle had been woven by two weavers, one sitting at the back and the other at the front of the loom, this fault would have been detected at once; but if only one man had been weaving it he would not have noticed the fault if it occurred on the back because there is no sign of it on the face.

While it would be practically impossible to weave such a cloth as this without the use of lisse threads, it would not be by any means a straightforward and easy matter working such a design as this with nine sets of lisse threads. Before the first thread of weft was put in, the weaver would have to draw forward the 1st and 6th sets and would have to hold them out while he put his weft across. Before the second thread of weft could be put in (the first back weft thread) he would have to draw forward the 1st, 2nd, 3rd, 6th, 7th, 8th, and 9th, next the 3rd, and 8th, and then 1st, 3rd, 4th, 5th, 6th, 7th, 8th, and so on, for the twelve different combinations required to complete the design.

It will be seen, therefore, that it would be a very easy matter to make a fault by drawing out the wrong set of lisse threads, or failing to draw out a set that should have been drawn forward for any particular thread of weft, and if such a mistake were made while weaving one of the threads of weft making the back, it would not be noticeable from the front of the cloth. A careful examination of the girdle fails to reveal any such slips of an odd set of lisses, the faults referred to above being the result not of the failure to raise or leave a single set, but the use of one combination of lisses instead of another. In the fault illustrated, the weaver has repeated over again two of the combinations that he has just used, instead of going on to the next in order. He has, in fact, put in three back threads of weft one after the other, to one face thread, so that in the same space as is covered by six weft threads on the face we find eight at the back.

This interesting fault would suggest that some means was employed for working out the combinations automatically, so that all the weaver had to do was to pull forward, before putting in each thread of weft, that one, of twelve levers or strings, which was attached to the combination of sets of lisse threads required for the thread of weft that he was about to weave.

Such an arrangement as this would simplify the weaving enormously, and there seems every reason to believe that something of the sort was used, possibly the weaver did not actuate the twelve strings himself but had an assistant to do it for him, just as boys were used for the same purpose in old hand looms, being called draw-boys on account of their having to draw up the sets of healds as required.

It has already been said that the girdle tapers in width from one end to the other, and this has been effected by gradually cutting out some of the warp threads as the weaving proceeded and drawing the remaining threads closer together, so that the number of threads to the inch remained the same throughout. Where the design repeats on five warp threads, bunches of five have been removed at a time, and where it repeats on four, bunches of four have been taken, so that the design of the cloth has not been interfered with, but the pattern is gradually altered in size and shape, as may be seen by comparing the illustrations of the two ends of the girdle.

Even if this girdle represents the high water-mark of the weaving industry at the date at which it was woven, and although we know of no other examples of anywhere near the same date that approach it as examples of complicated weaving—for the earlier specimens referred to are only hand tapestry and as such far simpler and more primitive examples of weavers' art—we cannot believe that all the ingenuity that has been expended upon it was the result of one man's work. Probably many of the features of this cloth that have been considered had been in use, possibly in a simpler form, for many centuries before this sample was woven, although we have no record of them.

The earliest example of weaving that has been found in Egypt dates back to the Archaic Period (about 3500 B.C.), and is only plain cloth such as was used for mummy wrappings, but an examination of it shows that all the thread used to make it is two-fold and that lisse threads were used to weave it.

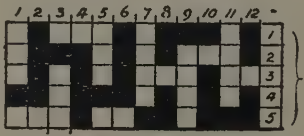
There is another very interesting point that is raised by a consideration of this girdle which has been left to the last, not on account of its comparative importance but because the only evidence that throws any light on the point is of a circumstantial kind. The general impression that is gathered from a glance at the drawings of ancient Egyptian looms is that they were vertical; that is to say, the warp was stretched vertically, but since the Egyptian drawings represented objects as all being on the same plane, it will be understood that a weaver sitting beside a vertical loom would be represented in exactly the same way as a weaver sitting beside a horizontal loom, so that some of the drawings of looms that exist may represent horizontal looms, although at first sight they appear to be vertical.

Whether this girdle was woven on the former or latter variety is a matter that cannot be determined with certainty, but there are points that support the view that the loom was horizontal. The vertical loom has been found the best, on the whole, for hand tapestry weaving; whereas the horizontal is the only form that is used for modern power looms.

The modern form of lisse threads, called nowadays 'healds,' consists of two bars of wood with threads tied between them, in the middle of which there is a loop or eye through which the warp is threaded. The object of this is that the healds can be drawn backward as well as forward. In a cloth containing as many threads of warp to the inch as the girdle, it would be a matter of the greatest difficulty to draw forward exactly the threads that were required without their bringing with them other threads with which they were entangled, unless these other threads were held down by healds such as have been described. In a horizontal loom the healds will hang vertically, and in many forms of looms a weight or spring is attached to the bottom bar of the heald to keep it taut and to draw it into place after it has been used. Such an arrangement would be very much more complicated to fit up on a vertical loom than on a horizontal, and apart from that difficulty, in a horizontal loom the threads would tend to fall back into place of themselves, which would not be the case in a vertical loom. Anyone who has a practical knowledge of weaving with a large number of warp threads to the inch will realize the great difficulty of getting the warp to split or ‘shed,’ cleanly for the passage of the weft, and—in view of the very accurate weaving of the girdle and the small number of faults due to imperfect shedding—will readily endorse the suggestion that the girdle was woven on a horizontal loom with nine leaves of healds at least, weighted if not worked positively, and raised by some arrangement analogous to the modern dobby in so far as it drew forward by one motion the various leaves of healds required for each pick of weft, the pegging plan or design of which would be as follows:—

Picks of Weft.

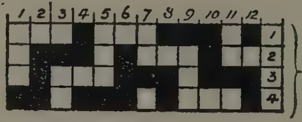
Design of Quality with Five Warp Threads.



Threads of Warp.

Fig. 9.

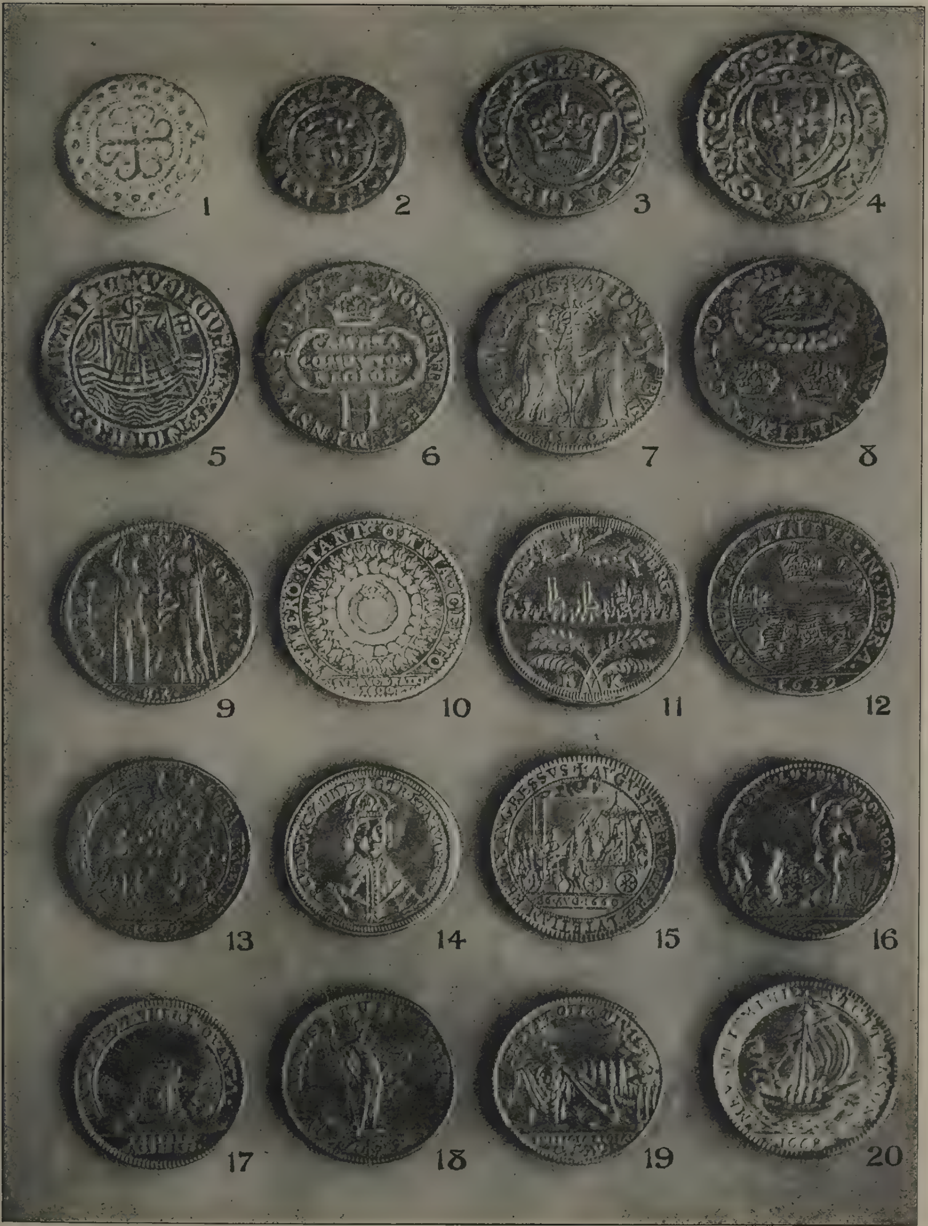
Design of Quality with Four Warp Threads.



Threads of Warp.

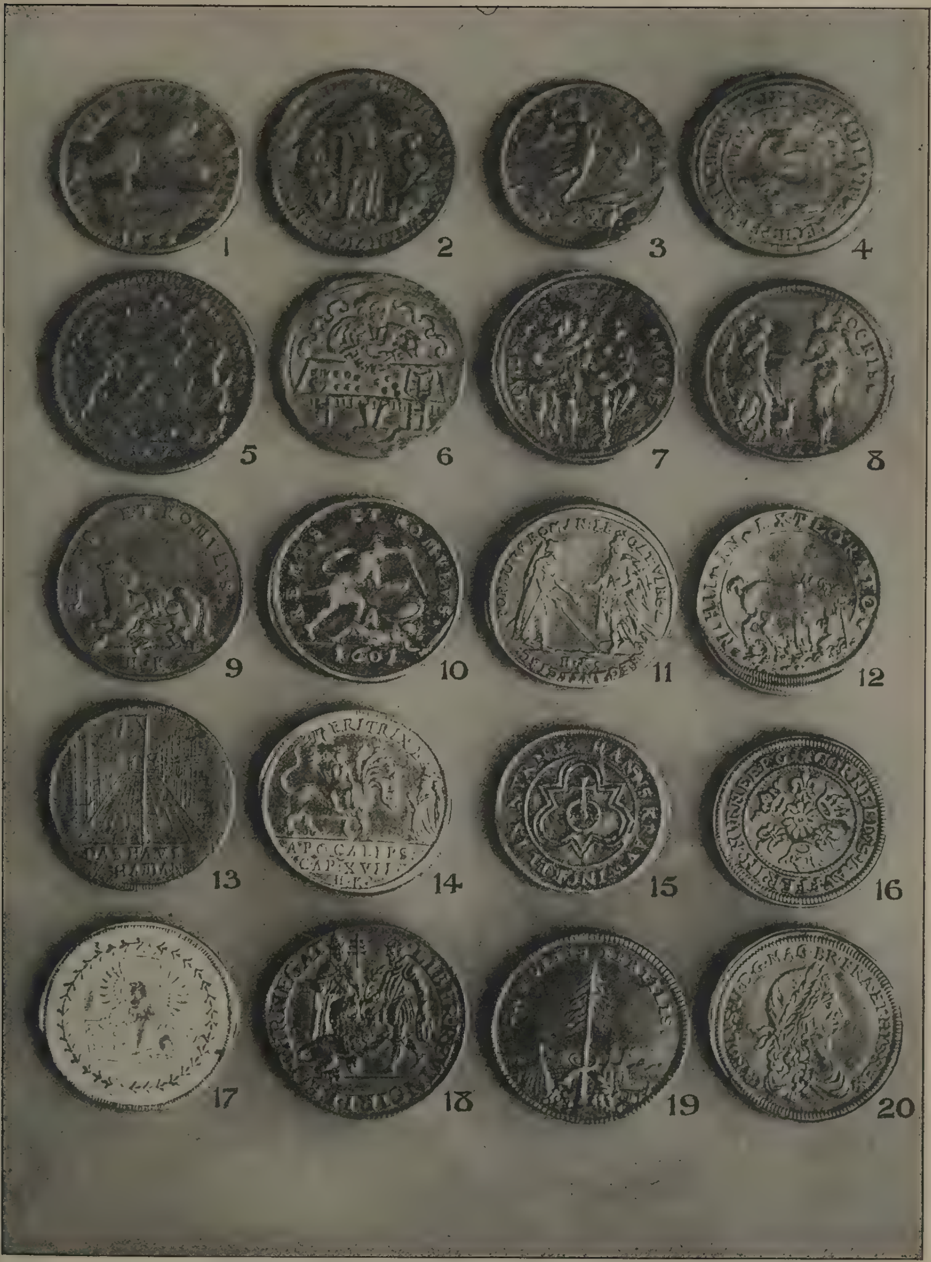
Fig 10.

PLATE I.



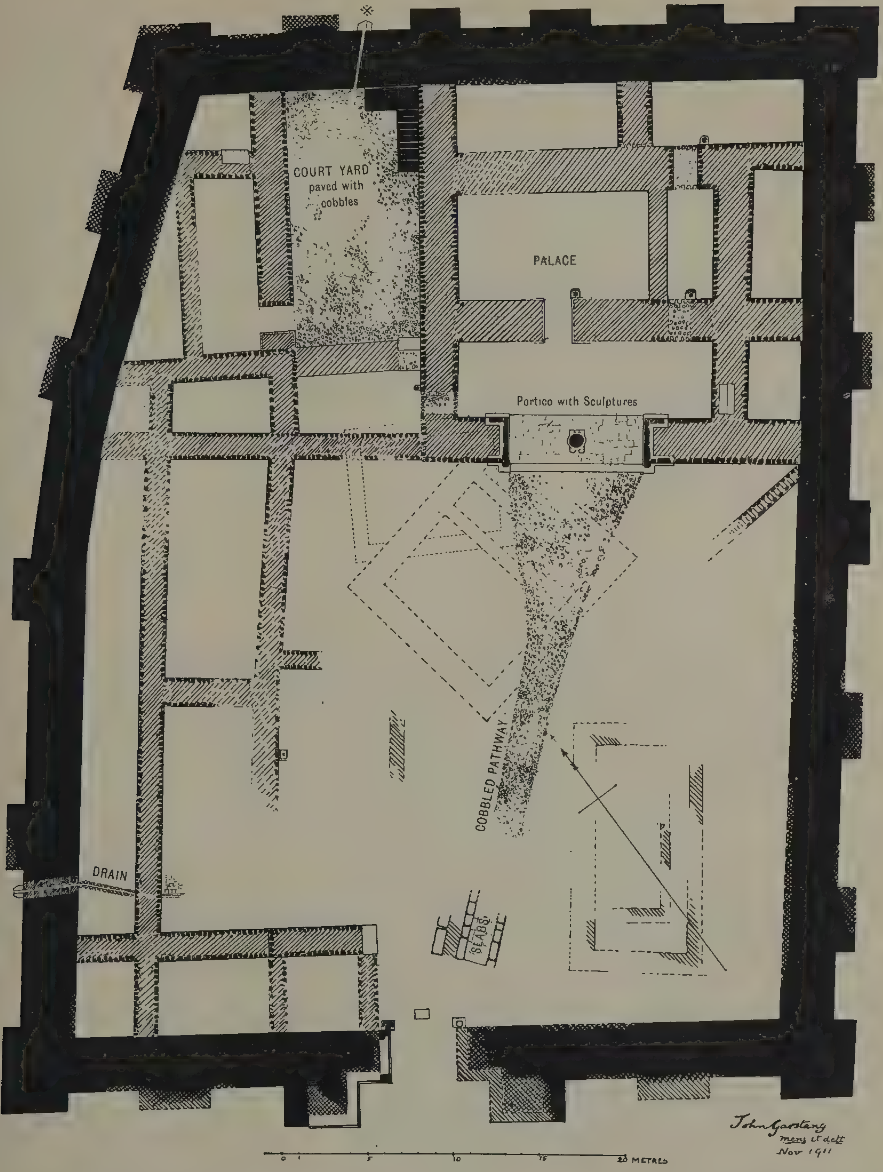
JETTONS OR CASTING-COUNTERS.

PLATE II.



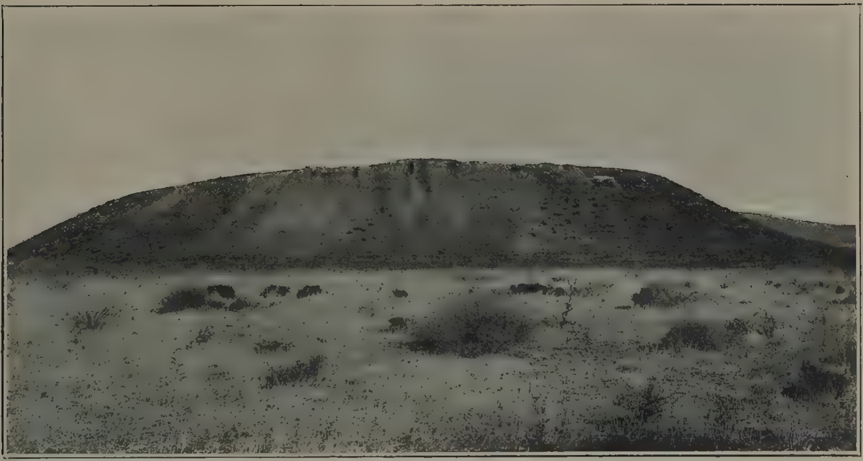
JETTONS OR CASTING-COUNTERS.

SAKJE GEUZI: THE ROYAL CITY.

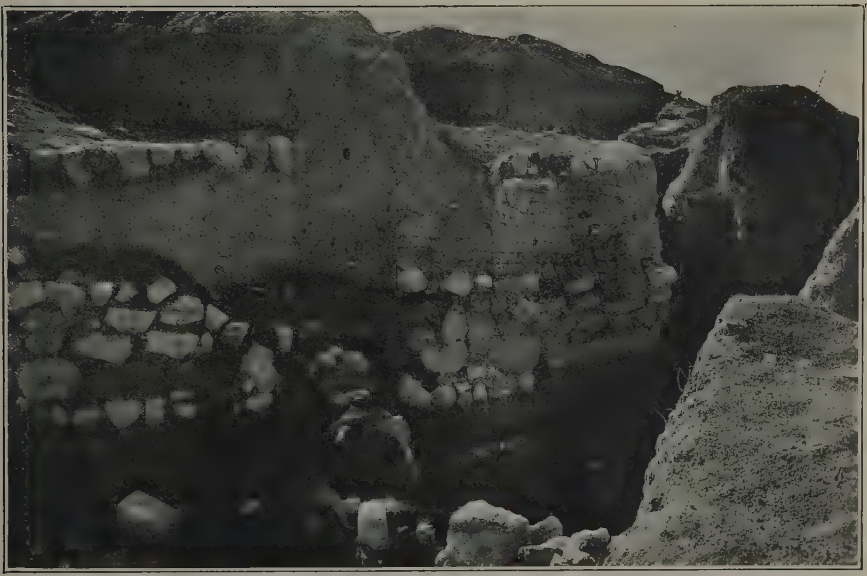


PLAN OF THE PALACE AND ENCLOSURE.

SAKJE-GEUZI: SONGRUS EYUK.

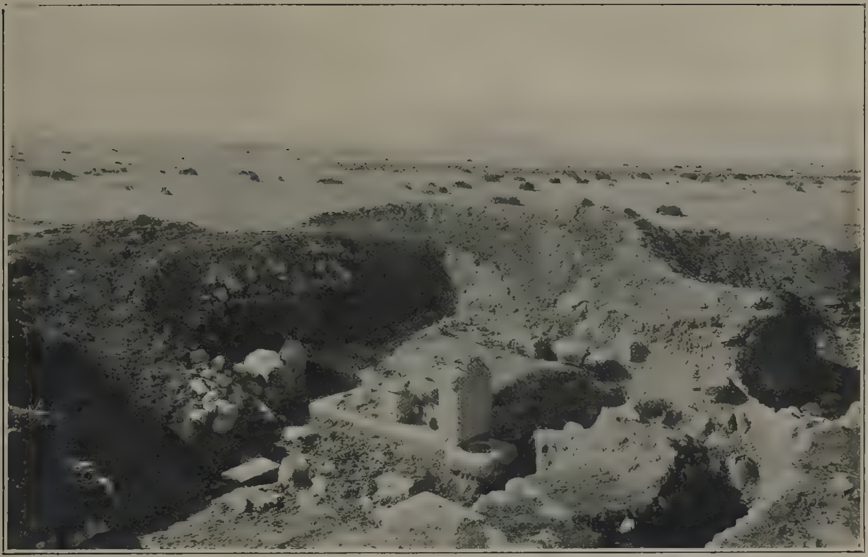


THE MOUND AT THE BEGINNING OF EXCAVATIONS, 1911.

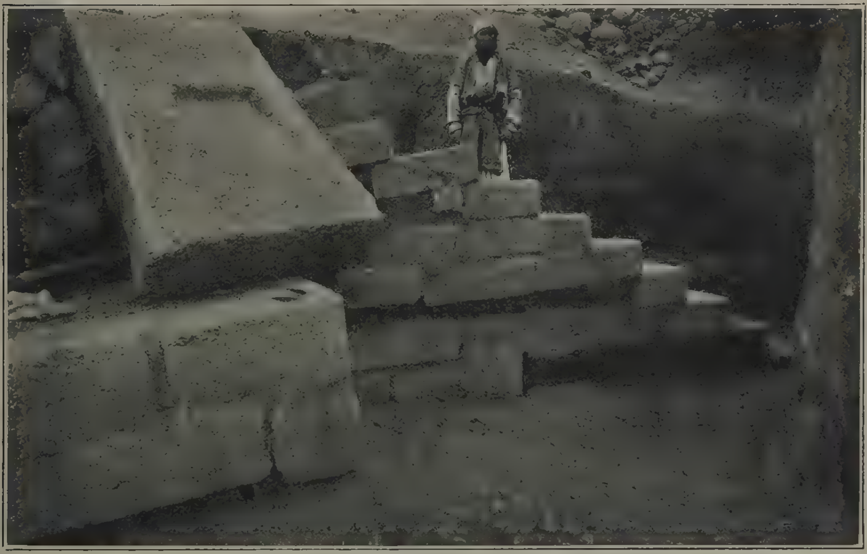


NORTH END: SUPERPOSED WALLS AND POSTERN.

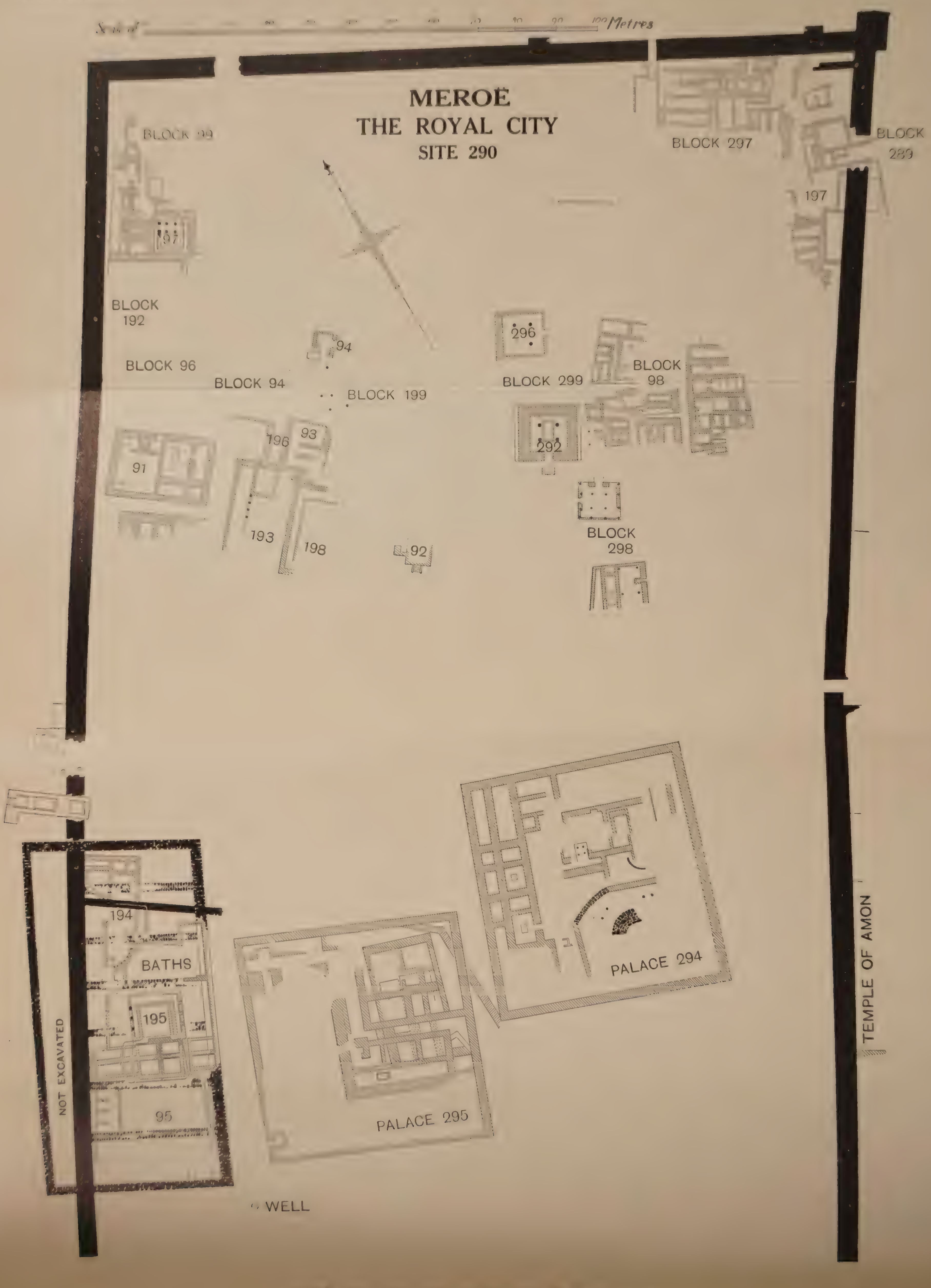
SAKJE-GEUZI: JOBBA EYUK.



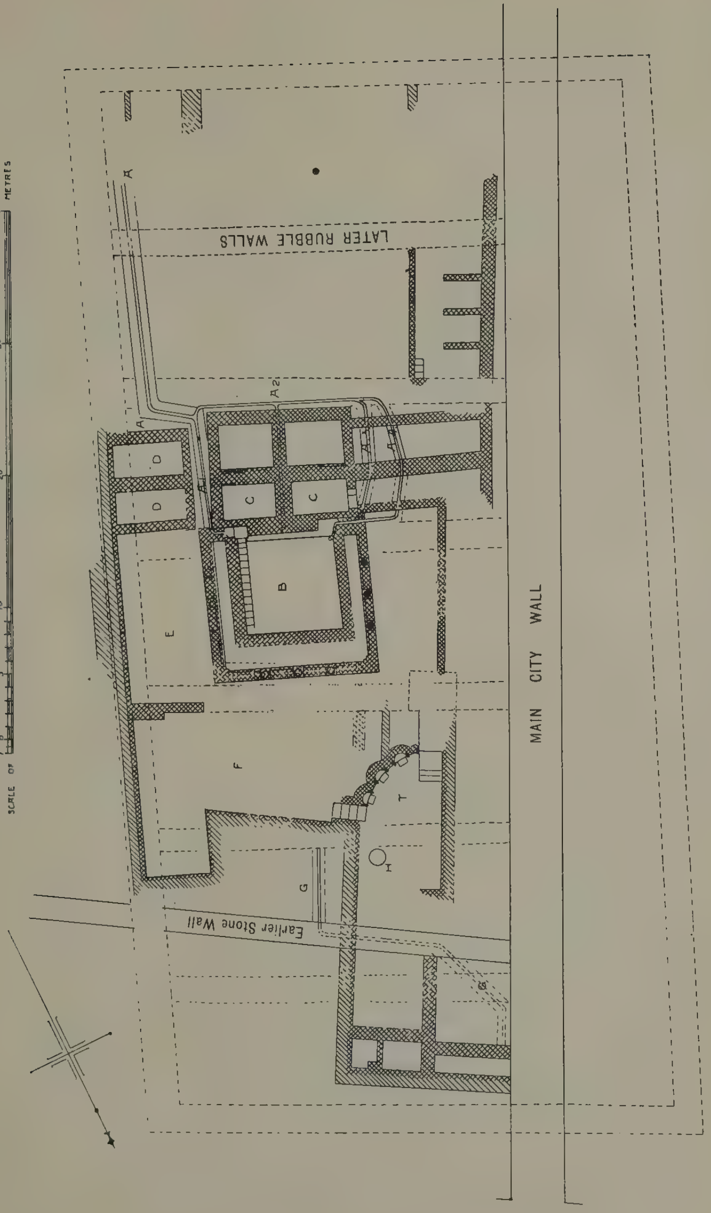
WEST SIDE OF THE MAIN GATEWAY, SHOWING CORNER-STONE AND SOCKET.



STEPS LEADING UP TO THE RAMPARTS FROM PALACE COURTYARD.

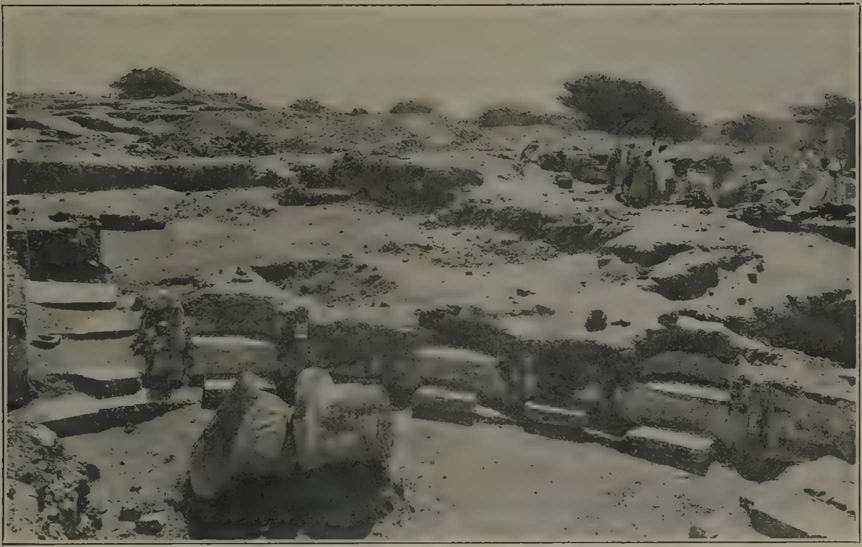


MEROË: THE ROYAL CITY AT THE END OF SEASON 1911-12.

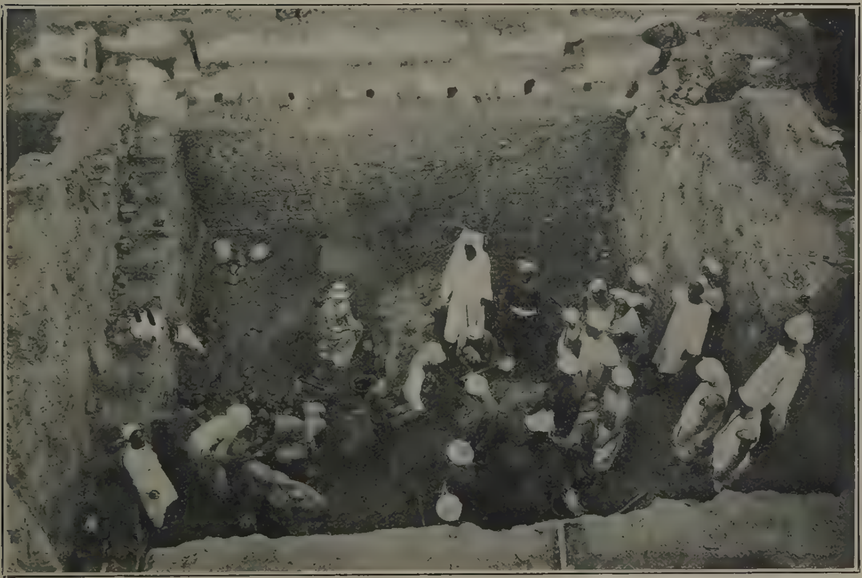


MEROË: PLAN OF THE ROYAL BATHS, 1912.

MEROË: THE ROYAL BATHS.

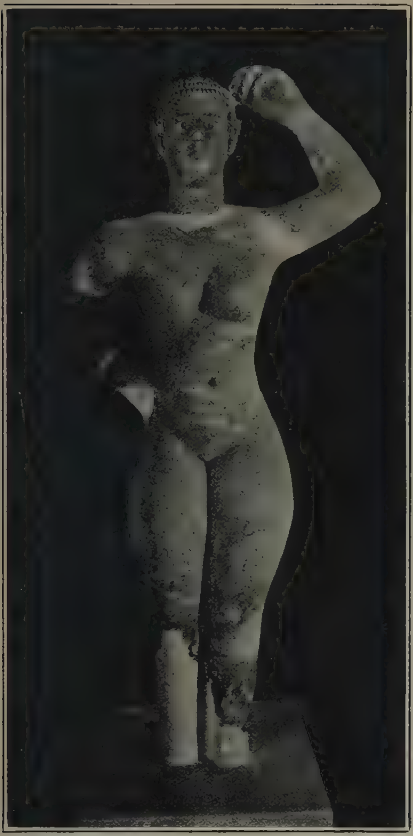


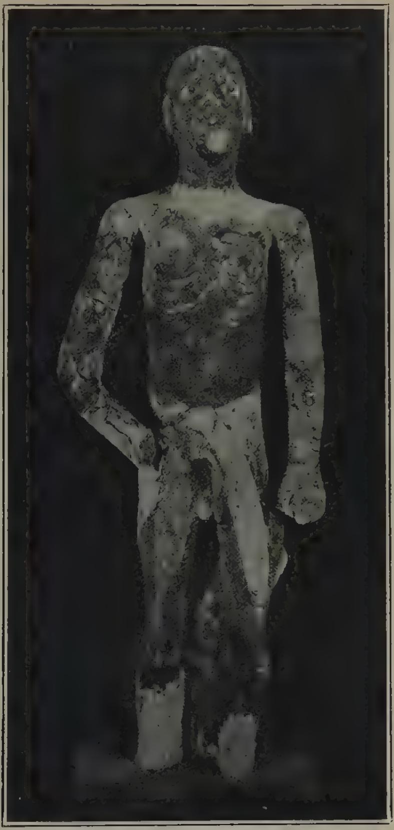
THE *TEPIDARIUM*, SHOWING THE SEATS.



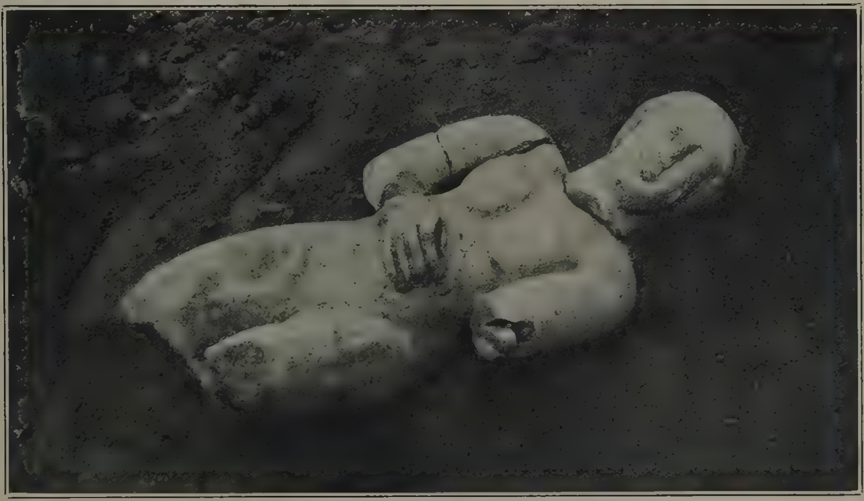
THE SWIMMING AND SHOWER-BATH.

MEROË: STATUES FROM THE BATHS.



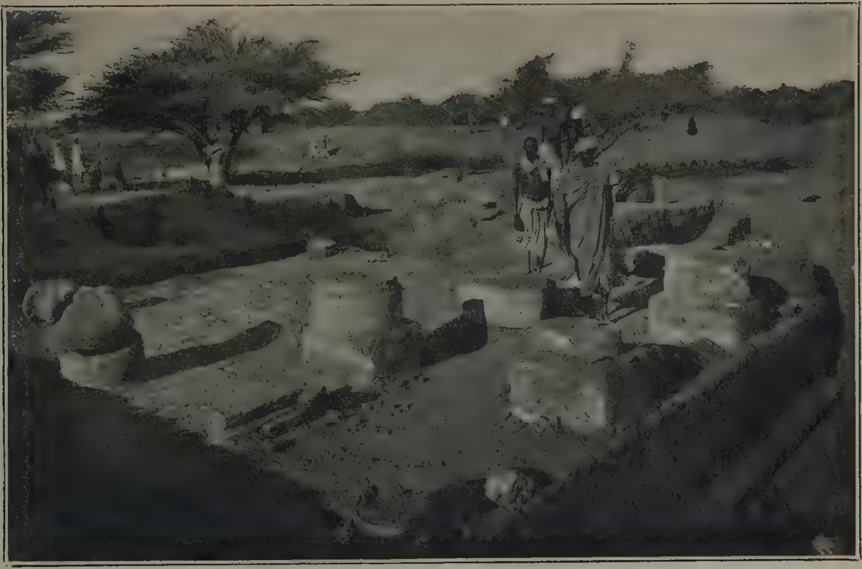


TWO FIGURES FROM A CORNER OF PALACE 295.

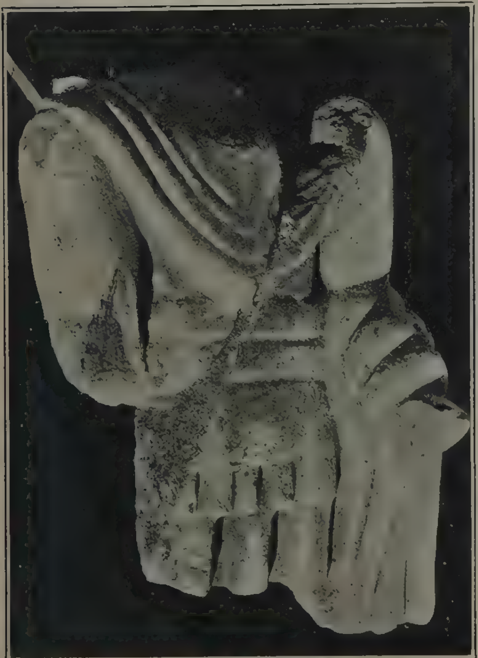


A MEROITIC VENUS.

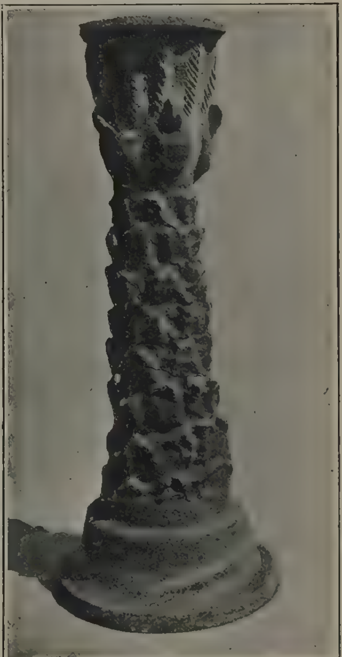
MEROË CLASSICAL REMAINS, &c.



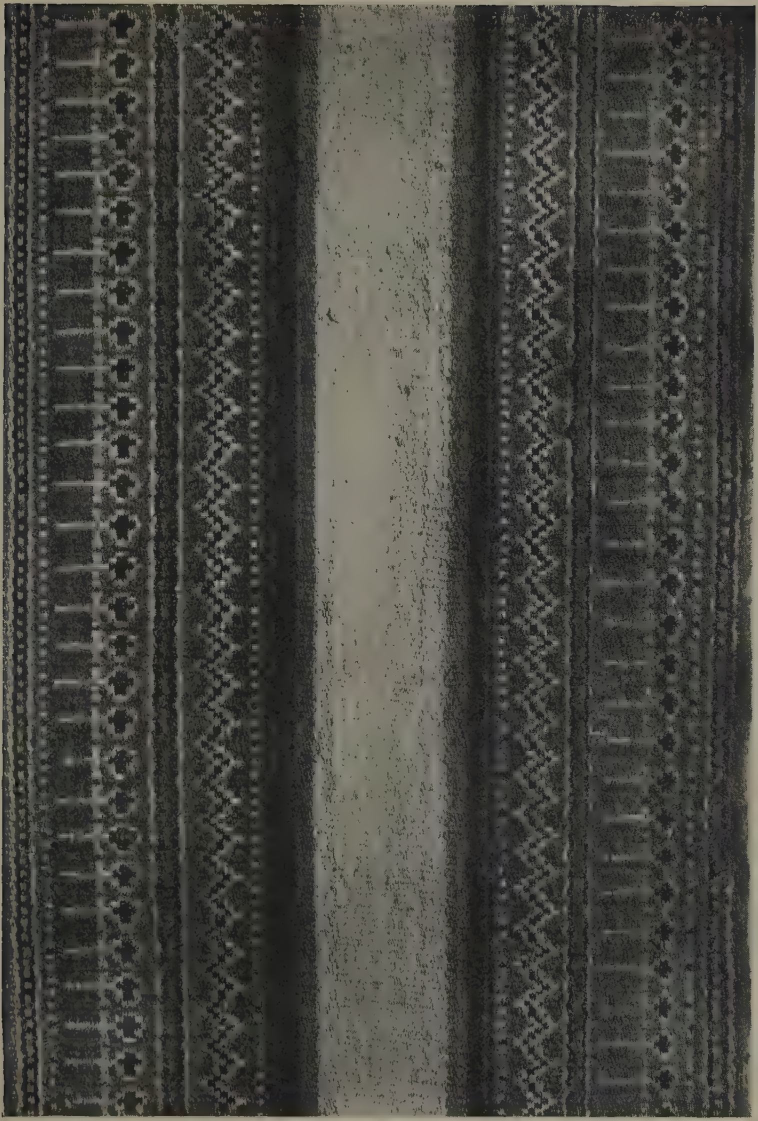
VIEW OF THE SMALL PROSTYLE TEMPLE.



TORSO, PRESUMABLY OF AUGUSTUS.



VASE-STAND OF POTTERY,
DESIGNED LIKE A PALM TREE.



THE GIRDLE OF RAMESES III (Section actual size).

SUPPLEMENTARY LIST OF JETTONS

By Professor F. P. BARNARD

As only a few of the rare 13th and 14th century Jettons are included in the above collection at the Institute, I add here descriptions and illustrations of other early pieces, and of certain later examples of typical character or of special interest, taken from my own cabinets. All are of latten, bronze, or copper. The lettering down to No. XXI inclusive is Lombardic.

I.—Obverse of an English, or Anglo-French, 13th century Jetton. The crescent and star was a badge of Richard I, John, and Henry III, and appears on the obverse of both seals of Richard I, in the field; on the obverse of the first seal of Henry III, at the beginning of the legend; and on the reverse of the Irish pence and halfpence of John, *e.g.*, Nos. 10 and 12 in the *British Museum Handbook.* Since the origin of this badge does not seem to have been investigated, I venture to submit the following suggestion as to how it came to be used by Plantagenet Kings of England. The crescent and star (or sun, whichever it was) appears on the *deniers* and *oboles* (pennies and halfpennies) of Raymond V, Count of Toulouse and and Marquis of Provence, 1148-94). (See *e.g.*, Engel and Serrure, *Numismatique du Moyen Age*, I, 780.) It is found also on the reverse of coins of Raymond II, Count of Tripoli, 1152-87, a member of the House of Toulouse. (*Ibid.*, 912.) Evidently it was a device of that family. The mother, and the paternal grandmother (*Geoffrey of Vigeois*, ed. by Labbe in *Nova Bibliotheca*, Paris, 1657, II, 304), of Queen Eleanor, mother of Richard I and John, were both of the House of Toulouse. Thus it is likely that the crescent and star descended to these kings through their mother. On many of the 13th century jettons of the English sterling type (such as Nos. 1 and 2 in the collection at the Institute) the cross on the reverse is cantoned by two crescents and two stars placed alternately. It is not necessary here to go behind the use of this symbol as a Plantagenet badge, but it appears in the Roman coinage as the sun and moon on a reverse of Petronius Turpilianus (Smith, *Dict. Gk. & Rom. Biog.*, 1867, III, 1192), and became, of course, a familiar device of the Eastern Empire, whence the Ottoman Turks presumably adopted it. (Didron, *Christian Iconography*, Stokes, I, 159.) See the seal (in Piton, I, 77) of one of the Lombard bankers settled at Constantinople in 1249. There is no legend on either face of this piece. The reverse bears a long cross patty, similar to that on Edward I's Anglo-Gallic penny (*B.M. Handbook*, Nos. 243, 245), cantoned by crosses within circles, which is somewhat reminiscent of the Pax money of William I. The obverse of this jetton is described and illustrated in Rouyer and Hucher, p. 171 and Plate XVI, figs. 134-5; and in La Tour, Nos. 662-6. [Pl. III, 1.]

II.—Jetton of Lombard bankers, such as succeeded the Jews after their expulsion from England in 1290. Both faces are the same, and are mute. The type is the orb, or mound, surmounted by the cross, combined in monogram with a Lombardic M (?) and S (?) as initials. If these are the letters, they may stand for Bonaventura de Marceio of Siena. (See Piton, II, p. 10.) The cross and initials is a common form of device on the Lombard counters, and may be compared with our merchants' marks. The bezanty border is one of the features of this class of jetton. As this fine piece (together with Nos. III, IV, V, VI, and others) was bought by me at the sale of the Kinberg collection at Amsterdam on July 1st, 1910, it probably was never used in England and may very well be anterior in date to 1290, but is of that century. Jettons of this character are of Italian manufacture. [Pl. III, 2.]

III.—Obverse of a Lombard Jetton of the same class as No. II, bearing a P surmounted by a cross. On the reverse is the mound with its cross, which is carried down throughout the mound, and in each of the angles thus formed is a pellet. It is mute on both faces. The same obverse appears with different reverses in Piton (Nos. 113-4), and with yet another reverse, the shield of the Strozzi (?) family of Florence, in La Tour (No. 707). The reverse of this piece occurs on another counter of the same series, given in Piton (No. 139). [Pl. III, 3.]

IV.—Reverse of a Lombard jetton of the same series as No. II and III. The pack, or bundle, is a common and natural type on these pieces, and is found also on leaden merchants' seals. The obverse bears the device of the Albizzi family, two concentric circles surmounted by a cross. Both sides are mute. This counter is given in Piton (No. 180). [Pl. III, 4.]

V.—Reverse of a Lombard jetton of the same series as Nos. II, III, and IV. The initials are T.S. A fleur-de-lys on the obverse shows that the issuer was a Florentine; *cp.* Piton, No. 146, reverse. Both faces of the coin are mute. [Pl. III, 5.]

VI.—Obverse of a Lombard jetton of the same series as Nos. II to V. The shield is that of the Franzesi family (*paly of six gules and argent, a fess or*) borne by the famous Italian financiers known in France as Biche and Mouche. Piton (II, pp. 100-1) gives cuts of their seals: these display the above arms with the respective legends S[IGILLUM] BICII [FILII] GUIDONIS DE FIGLINO, and S[IGILLUM] MUSCIATI [FILII] GUIDONIS DE FIGLINO. Figlinum is Figline, to the south-east of Florence. This helps towards the following pedigree:—

Guido de' Franzesi da Figline

Albizzo di Guido de'Franzesi da Figline.
Musciatto di Guido de'Franzesi da Figline.

There was a third son Nicolo. For an account of transactions of this house consult Piton, I, 102-114; and for a notice of the negotiations for an alliance against England conducted in 1297 by these two brothers, see *Trans. Ryl. Hist. Soc.*, N.S., XVII, 178. This obverse is that of Piton's No. 72; *cp.* also his Nos. 73-5. The reverse is similar to that of No. III, but has no pellets.

None of the examples given by Piton have this reverse. Both faces are mute. [Pl. III, 6.]

VII.—Lombard Jetton of the same series as the preceding five. Both faces are the same, and are mute. Unknown to Piton, Feuardent, and La Tour. [Pl. III, 7.]

VIII.—Obverse of a Lombard Jetton bearing Androcles and the Lion, a favourite type with this class of counter. On the reverse is an equilateral triangle, base uppermost, surmounted by a cross which penetrates to the centre of the triangle where it ends in a mullet or pierced star. This piece is Feuardent's No. 4975 and Piton's No. 145. Among other reverses or obverses with which the Androcles type is found associated are the fleur-de-lys of Florence (Piton, No. 146; Feuardent, No. 4976); the Lion of St. Mark of Venice (Piton, Nos. 141, 147-152; La Tour, Nos. 719, 723; Feuardent, Nos. 4977-8; Fontenay, p. 57; Rouyer and Hucher, p. 175); St. George of Genoa (Piton, No. 142); the P of Pisa (La Tour, No. 711); the double S of Siena (?) (Piton, No. 143); and the arm holding a croiser, of the Chartreuse at Pontignano (Piton, No. 153). [Pl. III, 8.]

IX.—Obverse of a Jetton with the type of a bear tied to a tree, Feuardent's No. 11041. The legend is *Cest la malle best.* The reverse has the decorated cross within a quatrefoil (familiar on counters of the period), in the spandrels of which are the letters A.V.E.M. for *Ave Maria.* Its date is late 14th century. Some authorities, *e.g.*, Dugniolle (Nos. 27-33), attribute these pieces to Bruges; Feuardent (II, 459), Rouyer, and others allot them to France. There can be little doubt that they are of French, not Flemish, make. Feuardent goes further, and regards them as jettons, or *méreaux,* of the Abbey of Ourscamp in Languedoc, on the ground that the arms of that house display a similar bear. *Cp.* La Tour, Nos. 1358-68. [Pl. III, 9.]

X.—Obverse of a Jetton of the *Trésor Royal* of France, struck in the second half of the 14th century, displaying four keys in cross. In the 13th and 14th centuries, keys were the special badge of the French Treasury counters, and survived on the buttons of liveried officials of that department down to the French Revolution. (*Cp.* the keys on the English Exchequer Seal, given in *Archaeologia*, VIII, Pl. XXX, fig. 3.) The legend is GETTES SEUREMENT followed by a dragon, another symbol of guard and security, often found on the locks of coffers in the Middle Ages. The reverse type is the arms of France-ancient on a lozenge set within a quatrefoil, and the legend, LE COMPTE TROUVERES, is a continuation of that on the obverse. This piece, which is Feuardent's No. 1849, is of graceful design and delicate workmanship. It is described and illustrated by Rouyer and Hucher, p. 61, Pl. IV, fig. 30; and La Tour, No. 72, Pl. III, fig. 5. [Pl. III, 10.]

XI.—Reverse of a 13th century Jetton of the *Chambre des Monnaies* of France. The scales are symbolic of monetary affairs, the pellets perhaps of coins or of counters. Both faces are mute. The reverse bears the shield of France-modern surrounded by pellets (Feuardent, No. 2114; Rouyer and Hucher, 52, Pl. III, fig. 21). I have used throughout these lists the conventional term France-modern, but this piece is itself one of many proofs that the three fleurs-de-lys are found in France long before 1364, while France-ancient, in which the field is semy of lys, occurs long after that date, *e.g.*, on 15th century jettons. Among artists, at any rate, there was no rule, and even on Edward III's gold money we find both arrangements. Variants of this jetton have France-ancient. [Pl. III, 11.]

XII.—Obverse of a Jetton, probably of the wife of Philip, Count of Evreux, and, *jure uxoris*, King of Navarre (*d.* 1343), bearing the arms of Evreux and Navarre dimidiated. The legend reads PATER NOSTER QUI ES IN C, and the reverse legend is the same less the final C. On French jettons dimidiation generally indicates the counter of a lady. The type of the reverse is a cross fleurdelisée with bowed limbs, its voided centre enclosing a fleur-de-lys, a form which is not found on jettons till the second half of the 14th century; though it had occurred in the French gold coinage, on the reverse of the *Chaise* and *Pavillon*, in the reign of Philip VI (1328-50). *Cp.* Feuardent's No. 6351; and see Rouyer and Hucher, pp. 119 *et seq.*; and La Tour, Nos. 343, 346, Pl. IX, figs. 4, 5. [Pl. III, 12.]

XIII.—Obverse of a Jetton of Marguerite, daughter of Raymond IV, Count of Provence, and Queen of Louis IX of France in 1234. The arms are a fleur-de-lys for France, and the coat of Aragon dimidiated. Raymond was a nephew of Peter II of Aragon. On the reverse is the famous coin-type of the *Châtel Tournois*, the nature and origin of which was explained in my lectures on English Numismatics, I, 238-240. Both faces of the coin are mute. This is La Tour's No. 202; and see his Pl. VI, fig. 2, reverse. [Pl. III, 13.]

XIV.—Obverse of a Jetton of Blanche of Navarre, second wife (1349) of Philip VI of France. She died in 1398. The arms are those of France-ancient and Navarre dimidiated. The legend on each face is the same: AVE MARIA GRACIA PLE[NA]. The type of the reverse is that of No. XII. This piece is described and illustrated by Rouyer and Hucher, p. 91; Pl. VIII, fig. 70; and by La Tour, No. 278, Pl. VII, fig. 11. See also Florange, I, 20; and Feuardent III, No. 11517 (still in MS.). [Pl. III, 14.]

XV.—A 14th century French Jetton showing a characteristic reverse of the period. The legend reads GARDES DE FALIR CONTE. On the obverse is the paschal lamb bearing a gonfanon on a cross-headed staff, with the legend AU MOUTON SUI BNATE. The last word is meaningless: pieces of this series often have blundered legends. This is Feuardent's No. 9497, for the lamb and flag type was tentatively placed by him with the jettons of the province of Berri, though it was certainly issued in other districts also, the *aignel*, or *mouton, d'or* (which ranged in date from Louis IX, 1226, till 1325 in the reign of Charles IV) being one of the French coins especially imitated by early jettons. The 'Mouton de Berri' was, it is true, the device of that province, and three sheep, two and one, were the charges on the arms of its capital, Bourges (*cp.* La Tour, p. 81;

Pl. XII, Nos. 12, 13, 14); but the lamb and flag, again, is the principal bearing on the coat of Rouen. (*Cp.* La Tour, No. 545, Pl. XIV, No. 15; and Rouyer and Hucher, p. 168, Pl. XVI, No. 132.) See also La Tour, No. 1032, who classes this counter under the *Agnus Dei* type, without reference to any locality. Many examples of these *Mouton* jettons bear evidence of their having been struck at the Tournay mint. [Pl. III, 15.]

XVI.—Reverse of a late 14th, or early 15th, century Tournay Jetton. The legend is O MATER DEI MEMENTO MEI. That on the obverse is the same, but, as the letters are rather smaller, A[VE] M[ARIA] is added to fill up the space. The obverse displays three circles arranged in triangle, one of the symbols of the Tournay mint: see Fontenay, 46; and La Tour, pp. 229 *et seq.* [Pl. III, 16.]

XVII.—Obverse of a Jetton struck either for use in the *Chambre des Comptes* of Dauphiné, or in imitation of such, probably in the time of Louis XI or Charles VIII (1461-98). The arms of France and Dauphiné quarterly occupy the field, and the legend is GETTES ENTENDES AU COMPTE. On the reverse the field is semy of fleurs-de-lys, and the legend reads, in continuation of that on the obverse, GARDES VOUS DE MESCOMPCTER. This is practically the same as Feuardent's No. 11318, of which, and others of similar character, he writes 'Imitations nurembergeoises?' The workmanship seems too good for this. *Cp.* La Tour, No. 89, Pl. III, fig. 14; and Rouyer and Hucher, p. 154, Pl. XIV, fig. 122. [Pl. III, 17.

XVIII.—Reverse of a Flemish Jetton of 1487: a helmed lion supporting the shield of Flanders. The legend is ERIPE ME DE INIMICIS MEIS D[OMI]NE from *Vulgate, Psal.,* LVIII, 2. On the obverse is St. Andrew holding his cross before him, with the legend DILEXIS[TI] ANDREAM DOMINUS. The saltire, or St. Andrew's cross, was a device of the House of Burgundy (Favine, *Theater of Honour*, London, 1623, IV, v, 23), and St. Andrew was chosen as patron of the Order of the Golden Fleece, instituted at Bruges in 1429, by Philip the Good, Duke of Burgundy and Count of

Flanders and Holland (1419-67). This piece is probably from the Tournay mint and is Dugniolle's No. 323. [Pl. III, 18.

XIX.—Reverse of a Jetton of the Flemish mint, issued in 1491. The obverse displays the shield of Philip 'le beau' and and that of his father the Emperor Maximilian I impaled, with Flanders impaling Austria *en surtout*. The legend, which continues that on the obverse, reads DE LARCHEDUC PF[I]LIPE DUC DE BOURG[ONDIE]. The obverse type is the same as that of No. XVIII, with the legend IETT[ON] DE LA MONNOIE [*Mint*] DE FLANDR'. This piece is No. 442 in Dugniolle, and is described and illustrated by Van Mieris, I. p. 236, fig. 5. [Pl. III, 19.

XX.—Obverse of a Medalet-Jetton issued in 1430, probably from the Tournay mint, in commemoration of the marriage of Philip the Good, Duke of Burgundy, with Isabella, daughter of John I, King of Portugal: the parents of Charles the Bold. The type is the familiar device of Burgundy, the steel with flints and burning branches. The form of the steel of the period resembled the B of Burgundy. The legend on both faces is AVE MARIA GRASIA PLENA. On the reverse is a small cross potent fleury cantoned by four lys. This piece is practically the same as Dugniolle's No. 69; and *cp.* Rouyer and Hucher, p. 137, and Fontenay, pp. 105, 249, 334, 388. [Pl. III, 20.

XXI.—Obverse of a Jetton of the household of the Archduke Philip 'le Beau' (see No. XIX), issued *c.* 1486. The shields are those of France-modern, Flanders, Burgundy-ancient, and Austria-ancient. The legend is continuous from one face to the other: IETT [ON] DU BUREAU DES COMDTES DES ‖ MAISTRES DOSTEL DE MONS[IEUR] LARCHID [UC]. The field of the reverse is occupied by the arms of Philip (see No. XIX) with an escutcheon of Flanders over all. *Cp.* Dugniolle's No. 325. [Pl. III, 21.

XXII.—Reverse of a Jetton of Nicholas Van Laen, Treasurer of Eleanor, 2nd wife of Francis I of France, sister to the Emperor Charles V and dowager queen of Portugal:

struck in the Low Countries in 1530. The arms are those of Van Laen, with the legend NICOLA[S] VA[NDER] LÆN TRESORI[E]R G[E]N[ERA]L D[E] LA ROI[N]E. This legend begins at the bottom of the coin, on the left-hand side, an arrangement which, though comparatively unusual, is not unfrequently found. The obverse displays the shield of France-modern impaling Spain and Burgundy, with the legend LEONOR[E] ROYNE DE FRANCE. This is Dugniolle's No. 1255, and is described and illustrated by Van Mieris, II, 328. Another counter of this official is given in Florange, No. 50. [Pl. III, 22.

XXIII.—Obverse of a Medalet-Jetton, issued by the mint at the Louvre, to commemorate the Peace of Edinburgh between France and England, 6 July, 1560. The F is for Francis II of France, and the busts represent him and his wife, Mary Queen of Scots, or possibly their hoped-for offspring. The legend ABUNDANTIA PUBLICA GALLIAR[UM] presumably points to the expected results of the alliance with Scotland and the treaty with England. On the reverse is a standing female, gazing and pointing heavenwards, and resting one hand encouragingly on the head of another woman, seated at her feet. The latter holds an infant, and from her posture evidently is symbolical of the misfortunes of war. To the right of the standing figure lies a heap of discarded weapons with a laurel branch placed in them. In the exergue is an inscription FELICITAS GALLIAE, and the legend reads PIETAS REGIS INVICTISS [IMI]. The types on both faces of the coin are thoroughly characteristic of the classical designs which by this time had become the vogue, and the phraseology of the legends and of the inscription on the reverse, is borrowed from the Roman coinage. The type of the obverse was perhaps suggested by a first brass of Antoninus Pius with the heads of Marcus Aurelius and Lucius Verus, or by a reverse of Tiberius, on which Addison has much to say (*Discourse on Medals*, 1753, pp. 77-82); or, again, perhaps by a first brass of Drusus Junior, alluding to the fecundity of the Imperial Family, and representing the twin children of Drusus and Livia. (See Stevenson, p. 289.) This piece is illustrated by Bie, Pl. 61, fig. 6; Pl. 62, fig. 1; and Pt. II, p. 185; and *cp.* Feuardent's Plates, I, fig. 10; Fontenay, p. 151; and *M.I.B.H.*, I, p. 98, Nos. 17-19. [Pl. II, 23.

XXIV.—Obverse of a Jetton of the Emperor Charles V for Flanders. It bears a fine bust of the Emperor, and is dated 1548 on the reverse. The legend is CAROLUS V ROMANOR[UM] IMP[ERATOR] SEMP[ER] AUGUST^9. The reverse displays the shield of Charles V supported by the double-headed eagle, and the legend reads GECTOIRS DU BUREAU DE LEMPEREUR: 1548. This piece, which is of Flemish manufacture, is Dugniolle's No. 1742; and *cp.* Fontenay. p. 373. [Pl. III, 24.

XXV.—Obverse of a Medalet-Jetton, dated 1598, struck in the Low Countries to record the falling away of Henry IV of France from the treaty of alliance made two years before between England, France, and the United Provinces against Spain. The shields are those of France-modern, England, the United Provinces, and Zealand. The legend is DEO DUCE, COMITE CONCORDIA. On the reverse three forearms in plate armour, issuing from a central laurel wreath (or possibly a laureated buckler), hold each a sword. Above the wreath, or buckler, is the date 1598; in the middle of it is the name of Jehovah in Hebrew characters. The legend reads MUTUA DEF[E]NSIO TUTISS[IMA]. This extremely rare piece is Dugniolle's No. 3452, and Van Orden's I, No. 1040. See, too, *M.I.B.H.*, I, p. 173, No. 170; and *cp. ibid.* No. 146, and Van Loon, I, 471. [Pl. III, 25.

NOTE ON A VASE OF MINOAN FABRIC FROM ABYDOS (EGYPT)

By Professor JOHN GARSTANG

WITH PLATES XIII, XIV

This preliminary statement is published by request, pending the completion of Professor Garstang's 'Thousand Tombs of Abydos' in which a fuller description and illustration will be found.

In the spring of 1907, our Expedition was occupied chiefly with the excavation of a portion of the great necropolis of Abydos lying immediately to the north-west of the valley that leads up through the desert, from the township of the earliest dynasties, southwards towards the royal tombs of the same period. The growth of the necropolis on this side was fairly uniform. The earliest tombs are in general those nearest to the city, and the latest are those furthest removed in this direction; the periods represented range from the Old Kingdom to the New. A little past mid way (beyond the Old Fortress called the Shuneh-t-el-Zebib), in an area full of tombs of the middle Kingdom and Hyksos Period, near the edge of the valley, tomb 416 was found and excavated in the ordinary course of work. The gang of labourers was controlled by a foreman of experience, named Ambarak Aqab; this work went on under my personal supervision. The notebook references made during the excavation are in my own handwriting, and the inventory of the contents of the tomb is in the handwriting of the late Mr. Harold Jones.

The tomb was like others of the period: it consisted of a group of six shaft graves, side by side, built at one and the same time. The whole group was protected from the falling sand by a wall descending about 1·50 metres into the sand; and the dividing walls between the shafts, about two bricks thick, descended to about the same depth. At this level the harder gravel bed was reached, and through this stratum the shafts descended to a depth of about five metres without the support of masonry. Thus the shafts were only about half a metre apart from one another; and the partitions were of gravel. The chambers corresponded, being uniformly dug into the south-east ends of the shafts, at the bottom, so that the six chambers lay practically side by side. As was not uncommon, the chambers were hollowed in a softer stratum of gravel than the roof above; in fact the depth of such tombs seems to have been largely determined by the point at which a conveniently soft stratum was found. This being the case, it not infrequently happened that in the course of time the slender partitions between the chambers fell; or were broken down by plunderers forcing their way through from one chamber to another, thus leaving a more or less continuous cavern, into which access might be gained from any of the six shafts. For this reason, we adopted the habit of numbering such tombs with a single number, distinguishing the various shafts, and, so far as possible, the various chambers, by separate small numbers. Furthermore, it is demonstrable that such groups of graves were constructed and first used in the same historical period. The shafts were first constructed by a speculator or contractor, who only prepared the chambers as they were required.

The contents of the tomb were in this case noticeably free from intrusive features and uniformly characteristic of the funereal arts of the XIIth Dynasty. It is unnecessary here to give the list in detail; it covers six of the inventory sheets. The objects for the most part, are massed together in a common list for the reasons stated above, but in the cases of the third and sixth graves (from the north), it was possible to discriminate to some extent, so that these received each their separate inventory. In the general list there is an unusual number of small glazed objects, including a hedgehog, two cats, several apes and monkeys, as well as a number of crude painted figures representing animals, wrestlers, musicians and so forth. There is a long list of the objects familiar to Egyptian tombs of the XIIth Dynasty; such as Kohl pots of alabaster and of dark stone; grinding palettes of dark stone and of slate; mirrors with wooden and stone handles, etc. Specimens peculiar to the XIIth Dynasty include necklaces of large globular glazed beads, long cylindrical glazed beads (such as were freely used in collars of the middle empire at Beni Hasan), and small beads of amethyst, garnet, etc., with amulets of mother of emerald: also small vases of 'blue marble'—a material hardly found in other periods. Confirming this general evidence are two cylindrical cylinders inscribed with royal names of Kings Senusret III and Amenemhat III, as well as a private scarab of their period, inscribed with the name of the Steward *Sa-em-pet.* (See Pl. XIV.)

A noteworthy feature of these lists is the uniformity as to date; for we are accustomed, at Abydos, to find evidence of tombs having been re-used once at least, and possibly several times, in ages subsequent to that at which they were constructed. It was only in examining the surface-filling when the excavation was completed, that anything of a different period was discovered; that was however only the foot-end of a glazed Ushabti figure, such as are found littered about the surface of the sand in every direction, and therefore cannot be admitted in evidence. In this general inventory of objects from the common chamber, there are sixty items, not one of which suggests any difference of date or general character.

The third section of the tomb was somewhat better preserved than the rest, and the inventory of this portion reads as follows:—

(*a*) Slate Kohl pot with lid, 5·2 cms.
(*b*) Slate colour-mortar, 11·6 × 20·2 cms.
(*c*) Diorite colour-mortar, 17 × 10·3 cms. with grinder, 4 cms.
(*d*) Minoan ('Mycenean' in MSS.) Vase, in fragments.
(*e*) Blue glazed 'draught-man holder,' 11 cms.

These objects are, with the exception of (*d*) similar in general character to others found in the tomb, and occasion no separate comment. The vase (*d*) which is now on view with some of the contents of this tomb, in the Ashmolean Museum at Oxford (No. E3295), is there described as a '*Cretan polychrome vessel in a style characteristic of the second middle Minoan period.*' (See Plate XIII.)

The sixth portion, that is the most southerly, was also partly separable, and has, accordingly, its own inventory amounting to a dozen items. These again do not call for detailed observation, comprising alabaster Kohl vessels, a standing dark stone vase tapering to the base, of typical middle empire form, two vessels of blue marble or blue alabaster, the use of which material is practically confined to the middle empire, and so forth.

One portion of the tomb alone remained undisturbed so far as ancient plunder was concerned. This was in an upper chamber of the second section, and it owed its preservation doubtless to the fact that the plunderers had gained access to the chambers below by way of another shaft, but had not taken the trouble to open up the shaft in question, and consequently remained unaware of this upper chamber. It contained, however, nothing specially instructive. In it a body had been placed with head to the south, facing west. At the foot were a stone palette with grinder, and a Kohl pot of a dark stone, and near the head were a few beads,—all uniform in character with the objects already mentioned. The subsidence of the chamber at the back made further excavation of it impracticable.

Our present subject of enquiry being the circumstances attending the discovery of the Minoan Vase found in the third section of the tomb, there remains little to be said. Every object found inside the tomb to a number of more than a hundred was of XIIth Dynasty character, and we cannot doubt that the inscribed cylinders of Amenemhat III and Senusret III gave a reliable date to the whole group. There is nothing to suggest that the vase in question is not a contemporary deposit,—in fact any other conclusion would be unjustifiable. In many tombs of this site, the usual mixing of dates might have complicated the argument, but in this case no such difficulty arises. It is proved beyond reasonable doubt that the Minoan Vase was found in a XIIth Dynasty tomb, and is therefore at least as old as the contents of the tomb. It may of course be still older, so far as our evidence is concerned.

The further problem of the actual date in years to which this object must now be assigned, is not in any way connected with the excavation of the tomb. Those who believe that the Hyksos period in Egypt was not as long as tradition would have it, and who eke out the paucity of historical evidences rather by archaeological considerations,—chiefly the changes in forms and character of objects, and in burial customs, (the standard criteria), if any,—between the end of the middle empire and the beginning of the new empire, may place the date of Senusret III as late as 1900 B.C. It must be said at once, however, that the Egyptian sources of evidence on this point are not satisfactory, because the material is too slight: but even the little material evidence that remains, is, in my judgment, a more reliable basis for chronology than distorted traditions, and the strung-out lists of possibly contemporary local 'dynasties.' The links with Crete provide a much better standard and basis of judgment, for the development of culture there, between epochs now determinable, is well illustrated by a continuous series of archaeological evidences recovered by methodical excavation and research. It is necessary however to bear in mind the inherent difference of local conditions and environment.

The date recorded in the Ashmolean Museum for the second middle Minoan period, which is that of the earlier palace, is 2000 to 1800 B.C. This conclusion agrees entirely with our own view.

ARE WE JUSTIFIED IN SPEAKING OF A MEGALITHIC RACE ?*

By T. E. PEET, B.A.

WITH PLATE XV

Since 1872, when General Faidherbe read to the Prehistoric Congress at Brussels his paper on the dolmens of Algeria,† the question of the origin and meaning of the megalithic monuments has been a subject of speculation to archaeologists. The Congress at Stockholm two years later gave a further impetus to the discussion, which continued somewhat spasmodically until the appearance in 1897 of Montelius' *Orient und Europa*, where a definite point of view was laid down which seems to have satisfied many archaeologists and to have provoked but little criticism from the rest. From that date the general question has been inclined to stagnate, though work on particular monuments and groups of monuments has always been in progress. It has, however, just been revived by the remarkably interesting point of view put forward by Professor Elliot Smith in his book *The Ancient Egyptians*, with regard to the origin of megalithic architecture. The last five years, too, have seen much new research, especially in Sardinia, Malta and Syria, and as a result we are far better qualified to decide questions of date and origin than we were in 1897.

The great problem with which we are brought face to face is as follows: Buildings of peculiar types, made of huge blocks of stone, usually unworked, are found in certain parts of a vast geographical area extending from Portugal to Japan and from Sweden to Morocco. What is the meaning of this phenomenon?

Three possible answers suggest themselves. The custom of building megalithic monuments may have arisen independently in the countries in which we find it. Or, in the second place, it may have arisen among a single people and spread to others connected with them by trade or other relations. Or, in the third place, the spread of the custom from a single centre over a large area may have been due to an actual migratory movement of the people among whom we are supposing it to have originated.

---

* This article reproduces in substance a paper written for the Dundee meeting of the British Association. Owing to lack of time it was impossible to read more than a portion of the paper at that meeting, and it therefore seemed advisable to reproduce it in its entirety.

† *Compte-rendu du congrès d'archéologie préhistorique*, Bruxelles, 1872, pp. 406 ff. The still earlier work of Bonstetten, *Essai sur les dolmens* (Geneva, 1865), should be mentioned.

The first of these theories, that which postulates a number of independent places of origin for the monuments, has found a keen defender in Mr. A. A. Lewis.* He says: 'The building of dolmens was not confined to one race and the building of circles to another, nor was there any one race which originated and diffused both; but rather that megalithic building was a phase of culture through which many races have passed and which was developed in different ways not only by separate races but also in very restricted localities by different tribes, without regard to any racial differences or connections between them.'

To this theory there are several very serious objections. It is, at the outset, unlikely that a method of building which is to a great extent unnatural, consisting as it does in the use in small buildings of huge blocks of stone when much smaller and more manageable ones would have served the purpose equally well, should have arisen independently among so many peoples. If the phases of culture through which all or even many races pass be examined, it will be found that they are all in some way natural, or even necessary. Thus most nations have passed through a phase of employing copper for the simple reason that copper is more workable and more lasting than flint. In the same way almost all nations have passed on to use iron instead of copper, because it will take a better edge and can be produced in a much harder form. These are natural stages in a rational development. But such an argument cannot be urged in the case of megalithic monuments. The use of huge blocks of stone is not at all a necessary stage in the evolution of architecture. The natural origin of architecture lies in the putting together of stones of convenient size, and this corresponds exactly to what we actually find in the earliest buildings of Crete and Egypt, in which latter place, however, the conditions are complicated by the occurrence of mud brick at a very early date. Constructions of very large blocks are as a rule the product of the builder who has had a long experience, which has given him the courage to employ, and the skill to fit, such blocks.* The use of huge stones in an early stage of a people's civilization is therefore an abnormality to be accounted for by some special reason, and it cannot be explained as a phase which many nations passed through as a natural course. That it should arise independently in even a very few countries is unlikely, but to suppose that it did so in a large number, when the very geographical position of these makes collusion evident, is impossible.

---

* See *Anthropological Journal*, XXXVIII, pp. 380 ff., and XL, pp. 336 ff.

Again, whereas Mr. Lewis has laid emphasis on the local differences between the monuments, what is far more striking is their similarity over the whole area in which they occur. For megalithic building is not merely the use of huge blocks of stone, it is their use in particular ways and according to a well-defined system. Its central principle is the employment of orthostatic slabs, i.e., slabs set up on their edges instead of being laid flat. In some instances these slabs form the whole height of the wall, and the building is roofed over with horizontal blocks of stone. In cases where the walls are to be higher, or where the areas to be roofed are larger, the upright slabs form the lowest course, and above them are laid more or less horizontal courses of smaller blocks. In this case the roof is formed by corbelling, i.e., each successive course of blocks projects slightly forward over the last, so that the walls curve inward as they rise, and finally form a vault or dome. More rarely, as in the *nuraghi* of Sardinia and the *sesi* of Pantelleria,† the orthostatic principle is abandoned and roughly-coursed masonry is used throughout.

---

* To the suggestion sometimes made that the pyramids and the palaces of Crete have just as much right to be included under the term megalithic buildings as, for example, the temples of Malta, and perhaps more right than the *talayots* of the Balearic Isles and the *nuraghi* of Sardinia, where the stones are not all of immense size, it may be replied that there is nothing in common between the finely fitted horizontal masonry of Crete and Egypt and the unworked or roughly-squared orthostatic blocks of Malta. As for the *talayots* and *nuraghi*, even if their own construction does not show them to belong to the true megalithic civilization, the other monuments which are found with them, and which have been shown to be the graves of those who lived in them, show every characteristic of the megalithic style. The Cretan and Egyptian buildings belong to an entirely different tradition of architecture, and I cannot for a moment admit the possibility of Montelius' suggestion that the pyramids are merely improved derivatives of the dolmens.

It is worth while to remember, as a characteristic of megalithic buildings, that they are *small* structures built with incongruously large blocks of stone.

† *Monumenti Antichi*, IX, pp. 449 ff.

These same methods of building, particularly the principle of the upright slab, are found in all parts of the megalithic area, and point very strongly to a single centre of diffusion. This argument is strengthened by the remarkable similarities of detail noticeable in monuments existing in countries far apart from one another. Thus the simple dolmen occurs in practically every part of the megalithic area. Other types of monument have an equally wide distribution. The so-called wedge-shaped tomb, for example, common in the province of Munster in Ireland, consists of a simple *allée couverte* running east and west, and widening out considerably towards the west end.** This same widening at the west end is also a feature of certain megalithic monuments in Scandinavia,†† Germany, Holland, Portugal, Syria,* and the Deccan in India.† Again, a feature of many megalithic structures is a curved façade in the centre of which the doorway is situated. Such a façade is seen in the so-called temples of Malta,‡ in the Giants' Tombs of Sardinia,§ the *naus* of the Balearic Islands¶ (where, however, the curvature is very slight), in the horned cairns of Caithness,||

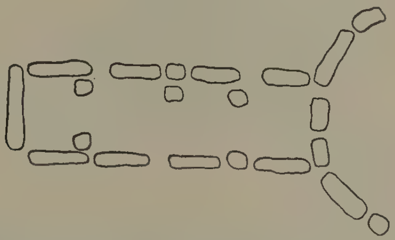


FIG. 1. Megalithic Tomb with curved façade at Annaclochmullin, Ireland. (After *Etruria Celtica.*)

** Borlase, *Dolmens of Ireland*, Vol. I, fig. 23.

†† Montelius, *Dolmens en France et en Suède*, pp. 8-9.

* Borlase, *op. cit.*, figures an example from the Jaulan in Syria.

† For these and for the dolmens of India in general see *Transactions of the Royal Irish Academy*, XXIV, 1865.

‡ See Albert Mayr, *Die Insel Malta*, fig. 5. For still better examples see the plans to be published in *Papers of the British School of Rome*, Vol. VI, especially that of the largest of the Cordin buildings.

§ *e.g.*, Mackenzie in *Ausonia*, Vol. III, p. 36, fig. 21.

¶ See the Nau d'Es Tudons, Cartailhac, *Monuments primitifs des iles baléares.*

|| Montelius, *Orient und Europa*, fig. 125.

in the long barrow of West Tump in Gloucestershire, in the grave of Annaclochmullin and the cairn of Newbliss** in Ireland, and in a tomb at Maughold in the Isle of Man.††

A further resemblance in detail between monuments far apart is to be seen in the small holes or windows which so often occur in one of the end uprights, or in those which sometimes divide a long grave into sections. Such windows are common in the dolmens of India.§ They are found in the Caucasus,‡‡ Palestine, Syria,§§ Sardinia,¶¶ France|||| and Sweden.*** There are good examples in our own country in the barrows of Avening and Rodmarton,††† in the dolmen of Plas Newydd in Wales, and in the monument known as Orry's Grave in the Isle of Man.‡‡‡ It is not impossible that the famous pierced stone known as the Lanyon Quoit, in Cornwall, at one time formed part of a megalithic tomb of the type under discussion. The peculiar cup-markings sometimes found on the megalithic monuments form another link between far distant countries, for they occur in Palestine, North Africa, Spain and Portugal, Corsica, France, the British Isles, Germany and Scandinavia.*

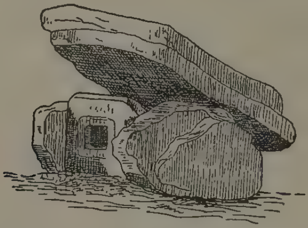


FIG. 2. Holed Dolmen at Ala Safat, Syria. (After De Luynes.)

** Borlase, *op. cit.*, figs. 269 and 278.

†† Kermode and Herdman, *Manks Antiquities*, fig. 17.

§ See *Trans. Royal Irish Acad. loc. cit.* The double dolmen of Coorg figured by Montelius *op. cit.* is a good example.

‡‡ Borlase, *op. cit.*, Vol. III, pp. 722 ff. Also *Matériaux pour l'histoire de l'homme* 1885, pp. 545 ff.

§§ De Luynes, *Voyage à la Mer Morte*, Vol. I, p. 135.

¶¶ *Ausonia*, Vol. III, fig. 30.

|||| *Anthrop. Journal*, 1910, p. 337.

*** Montelius, *Dolmens en France et en Suède*, p. 9.

††† *Archaeologia*, XVI, p. 362, XLII, pp. 216-7; *Proceedings. Soc. Ant. Lond.*, 2 ser. II, p. 277.

‡‡‡ Kermode and Herdman, *op. cit.*, pp. 48-9.

* Montelius, *Orient und Europa*, p. 26 ff. The Maltese examples probably serve an entirely different purpose, being merely ornamental.

These remarkable resemblances of general principle and of detail are not due to mere coincidence. They can only be explained by the supposition that megalithic architecture had a single origin, from which it spread into the countries in which we find it.

The date and geographical distribution of the monuments both point to the same conclusion. One often hears the careless statement that they are of very various dates. This is not strictly correct. Those of Europe and Africa mostly begin in a single period—the end of the Stone Age, or the transition to the era that followed it. To this period may be assigned, for example, the monuments of Malta, many of the *nuraghi* and Giants' Tombs of Sardinia, the monuments of Spain and Portugal and of France, the Long Barrows of England, and the dolmens and more complicated tombs of Germany and Scandinavia. For other examples, such as those of the Caucasus and the Crimea, we are entirely without evidence. Even in Africa, where some of the tombs are certainly of the Iron Age, there are others which are earlier, showing that the production of megalithic monuments in this region may well have *begun* at the date we have specified above. The existence of megalithic monuments of late date can never be an argument against derivation from a single source so long as it cannot be shown that there are no early examples in the same district. Thus in Algeria we know that there are some dolmens which have yielded objects of iron, but this does not justify us in supposing that the dolmens of Algeria all belong to the Iron Age. Only a very few out of many hundreds have been excavated, and MacIver has given reasons for thinking that the parts of the cemeteries dug are the latest and not the earliest.† So in India, too, several of the dolmens excavated are said to have contained iron, but this is no argument for the late date of the rest, and until many more have been explored we have no ground for asserting that there are no dolmens of the late stone or early metal age in India.

Thus the argument from the date of the monuments, so far from telling against the idea of their having a single origin, is rather in favour of that idea, at any rate in Europe, where the earliest of them in each country all date from one period—the end of the Stone Age.

---

† See MacIver and Wilkin, *Libyan Notes*, p. 93.

The argument from their geographical distribution is even more convincing. If we omit the Japanese examples, which we shall have to consider later, we may say that they begin in India and move west to Persia, Syria and Palestine, whence a by-path leads to the Caucasus, the Crimea, and Bulgaria.* The main line keeps to the north coast of Africa, running through Tripoli, Tunis, Algeria and Morocco. Thence it branches off to the north to Malta, Lampedusa, South Italy, Sardinia, Corsica, the Balearic Isles, Spain, Portugal and France, and finally up to the British Isles, Scandinavia, and the German shores of the Baltic. If megalithic monuments arose independently in all these regions, it is an extraordinary fact that they should lie, as they do, on the shores of a long natural sea route while the centre of Europe is entirely free from them. Surely the only possible explanation of their peculiar distribution is that they arose from a single source and thence spread into distant parts.

If this is the case, it only remains to account for their distribution over so wide an area. And here, as we saw at the outset, two possible explanations suggest themselves. Either they were spread among various peoples by the influence of relations set up by trade, or they were introduced into various countries by a single race in the course of a great migratory movement. These two theories we may for convenience of reference describe as the influence and the migration theories respectively. The former seems to have been regarded with the more favour by archaeologists, and yet it is not easy to see why, for it involves several very grave difficulties.

In the first place, were the countries which lay scattered along the great sea route which we have described in close enough touch with one another to account for the spread among them of megalithic building? No doubt certain trade relations existed even in neolithic times, but though we are apt to talk rather freely of the early trade routes, we have often little evidence to support our ideas. Within certain circumscribed areas, such as the Aegaean, a lively trade is known to have existed in the Bronze Age, but we have no right to push this back into the earlier periods or to apply it to far wider areas, except in cases where we have definite and sure evidence. Almost yearly we are finding that some material once supposed to have travelled hundreds and even thousands of miles by way of trade occurs in a natural state much nearer home. Thus the jadeite used in the manufacture of stone axes at Alba in North Italy was once supposed to have come from the east, but the raw material has now been shown to exist in the Alps and Apennines only a few miles from Alba* Archaeologists have pointed, moreover, to the peculiar kind of turquoise, called *callaïs*, which occurs in certain megalithic tombs of France and Portugal, as a proof of wide trade relations in the megalithic period. But it has to be remembered that this stone has been found in no megalithic tombs except those of the countries mentioned, and that the idea that it came from the east is the purest assumption. It is far more probable that it occurred in a native state in France or in Portugal, or even in both.

---

* This is merely a description of their distribution, not of the direction in which they actually moved.

It was probably the discovery of copper which did more than anything else to improve trade relations between one country and another. Flint was to be had in some form in almost every country, but copper was of such paramount importance in the struggle for existence that its importation became almost a necessity for any country which had not its own supply. Thus the trade of the early metal age was largely a necessary product of that age, and proves nothing with regard to the trade of the neolithic period. This being the case, it is far from certain that in the neolithic age the relations between the various parts of the megalithic area were strong enough to account for the spread of this remarkable custom. We have an excellent test case in Malta. Here, copper seems never to have been introduced at all, the only flint found is of the wretched quality which the island itself provides, and there is no trace whatever of trade or foreign influence of any kind. And yet Malta possesses some of the finest megalithic monuments in existence. The only possible explanation is the perfectly simple one that Malta formed one of the bridges used by a race who were builders of megalithic monuments in their migrations from Africa to Europe, or vice versa, and that a part of the race remained there and built the famous megalithic temples. The argument is rendered more cogent by the fact that excavation is each year making it more probable, if not certain, that these builders of megalithic monuments were the earliest inhabitants of Malta, and that they brought the custom with them when they entered the islands.

---

* *Atti del Congr. Internaz. di scienze storiche*, Rome, 1903, Vol. V, pp. 357-371.

On the other hand, the theory that the monuments were introduced by trade relations involves the assumption that such relations existed in the neolithic period over a very large area, and moreover, that these relations were strong enough to pass on not only products but customs from one country to another. If the upholders of this 'influence' theory could really imagine what this involves, they would probably be surprised by their own boldness. In the history of civilisation it is natural that any discovery which confers a real benefit on man should tend to spread. Thus the use of copper tended to spread, the discovery of edible cereals tended to spread, and the employment of the horse as a beast of burden tended to spread. But it is hard to see what attraction there was in megalithic monuments which caused them to spread, or what advantage their inventors could have in forcing their diffusion. Thus, though the traders of one part of the megalithic area might have been interested in finding a market for their copper in some other part, they would have no possible reason for wanting to persuade their customers to use megalithic monuments for the burial of their dead, nor would these latter, even if in the course of conversation they heard that such monuments were used elsewhere, or actually saw them in place, gain any advantage by adopting them themselves.

A further point which is apt to be overlooked is that the trade which, according to the advocates of this theory, brought the megalithic monuments cannot, from their geographical position, have been anything but a sea-borne trade. Now a sea-borne trade brings commodities rather than customs. Thus we can imagine that a people who lived on the confines of the nation who discovered the use of cereals, or the domesticating of animals, would be likely to adopt the new discovery, for they would have every opportunity of seeing it at work and appreciating its value. On the other hand, a people separated from the discoverers by a long stretch of sea would have far less opportunity of adopting the new discovery as they would hear of it only from occasional travellers and traders. Thus it comes about that a sea-borne trade will rapidly diffuse a commodity such as copper or gold, but is at a disadvantage in spreading a mode of living or a custom, even when this happens to be a really useful one. Much more is this true of a custom which is not in itself of any value to humanity, such as the use of megalithic monuments.

To this it may perhaps be replied that what this trade spread was the use of stone for building purposes, and that as the only kind of architecture then in vogue was megalithic, this was the form in which the new discovery spread. In answer to this it has already been pointed out that megalithic architecture is an unnatural and abnormal system, depending for its origin on peculiar circumstances. It is unthinkable that the many peoples who, we are to believe, were taught by trade to use stone should all have used it in huge unwieldy masses instead of building with smaller pieces, which are far more easy to obtain and far easier to set up. This trade theory would, further, not account for the exact similarity of the monuments in far distant parts unless we are to understand that the actual monuments were conveyed from one country to another by ship and set up by foreign workmen sent over for the purpose.

There is another even more serious objection to what we have called the ‘ influence ’ theory. It overlooks the fact that megalithic architecture is in the main religious and funerary in character. We know that in certain cases, such as the *nuraghi* of Sardinia, and probably the *talayots* of the Balearic Isles, it was applied to the houses of the living, but more usually its aim was to provide a temple for the gods or a tomb for the dead. In origin it was almost certainly funerary, as may be seen from its simplest and oldest manifestation, the dolmen. Among primitive peoples nothing is more sacred than the rites connected with the burial of the dead. There is nothing in regard to which early races are more conservative and in which they oppose more violently change or modification of any kind. Yet the advocates of this influence theory would have us believe that, not merely in one country but in many, the inhabitants were induced by mere foreign influence to make a complete change in their methods of burial. In other words, the people of Spain, hearing from traders that the people of Algeria or elsewhere were accustomed to bury their dead in dolmens, gave up their ancestral custom of interring the dead in a trench in the bare earth, and all the associations connected with it, and adopted the dolmen. This seems quite incredible.

It is curious that while so many archaeologists are wont to point to similarity of burial customs such as the rite of contracted burial as a proof of identity of race, they should fail to see that the equally strange custom of burying in dolmens has precisely the same cogency.*

The influence theory has lately been presented in a very attractive form by Professor Elliot Smith in his book *The Ancient Egyptians.*† He there advances the theory that the building of megalithic monuments in the Mediterranean was an attempt to imitate the accomplishments in stonework of the Egyptians, and that megalithic monuments did not appear until the aeneolithic age because the rise of architecture followed the discovery of copper in Egypt. This theory is by no means free from difficulties. In the first place, to say that copper was discovered in Egypt is still an assumption, and many archaeologists find it hard to accept the paradox that the use of copper was discovered in a country where no copper existed.‡ In the second place, proofs of the early relations of Egypt with even so important a centre as Crete are scanty and unconvincing, and it is therefore improbable that Egypt was in such close relations with the far less important parts of the Mediterranean as this theory would require. In the third place, Egyptian and megalithic architecture are so entirely and essentially different that it is impossible to derive one from the other. In Egypt we can trace the rise of architecture from the simple mud-brick work of the early first dynasty to the fine stone temples of the sixth, to which latter period Professor Elliot Smith assigns the influence which created the megalithic monuments. In all this there is nothing which bears the slightest resemblance to the buildings of huge unworked blocks found in the megalithic area. It is true that in Egypt very large blocks of stone were sometimes used, but their use was neither original nor essential, while in the megalithic monuments it was both. In the supposition that other peoples learned the art of using stone from the Egyptians there is nothing radically impossible, but that any nation was foolish enough to use vast unwieldy blocks of stone where smaller ones would have served equally well, just because the Egyptians used large blocks in their temples, is incredible. The fact is that megalithic architecture is far too vast and homogeneous a system to be explained as a mere effort to imitate some already existing type of building. Such an explanation will not account for the occurrence of such a form as the dolmen, which incidentally has no resemblance to any Egyptian building, in countries so far apart as Syria and Sweden. Where Professor Elliot Smith's theory really fails is in not recognising that in megalithic architecture the essential point is the size of the stones. It is hardly possible to avoid the conclusion that for the people who built these structures great stones themselves had some particular meaning and sanctity. The very existence of menhirs of vast size is a testimony to the truth of this. The discoveries in the so-called temples of Hagiar Kim and Mnaidra in Malta show that pillars of stone were there worshipped,* and if great stones had a religious value as such, it is natural that they should have been regarded as peculiarly fitted for use in building the abodes of the dead.

---

* It should be noted that the converse of this proposition is not necessarily true. Thus two peoples who use the contracted position are probably sprung from a common ancestor. On the other hand there may be peoples also sprung from the same ancestor who no longer use this position. But they gave it up by a process of internal development in burial rite and not at the suggestion or dictation of traders. In other words diversity of custom is not necessarily a proof of diversity of race, but only of a long period of separation. The megalithic people, like their neolithic predecessors in Europe, often used the contracted position. This suggests that they were in remote origin not unrelated to these predecessors, an idea which is confirmed by the similarity of the skull types. In this case the use of megalithic monuments must have been evolved among them after the first (early neolithic) branch had already broken away from the common home in Africa or elsewhere.

† pp. 168 ff.

‡ The Egyptian copper of course came, in dynastic times at least, from Sinai, and it is clear that King Mersekha of the Ist Dynasty carried on mining operations there. But we have no evidence to show that the Egyptians were the first people to mine the metal there. It is most unlikely that they should have discovered a new material in a country in which they did not live and to which they had no incitement to go until they heard that they could there obtain a material whose value they had already learnt by experience. That the Sinaitic peninsula was at this early date in other hands is clear from the statement of Mersekha himself when he tells us he had to repel the attacks of the local tribes. These were perhaps the lawful possessors of the mines.

[Copper in the form of carbonate, chloride, etc., is present in the gneisses and schists of the Eastern Desert, and there are old workings at Absiel and Abu Hamamid. See W. F. Hume, *Preliminary Report on the Geology of the Eastern Desert of Egypt*, 1907, pp. 56-57. Ed.]

---

* See Evans, *Mycenaean tree and pillar cult* in J. H. S., XXI, pp. 196-200; *Mayr, Vorgeschichtliche Denkmäler von Malta*, p. 723.

Such are the difficulties with which any attempt to explain the megalithic monuments as due to trade or similar influences is confronted. We are thus driven to adopt the third of our possible explanations, namely, that megalithic building was originally the property of a single race and was carried from one country to another by members of that race in the course of an immense migration. If there be any objections to this they are those of feeling rather than those of reason. Archaeologists are, perhaps rightly, a little nervous about postulating great racial movements in early times. Yet the same people are often only too ready to assume the existence of long trade routes in these remote periods, forgetting that to a great extent trade, for primitive peoples, is a luxury, while migration is often a condition of existence. After all, there is nothing impossible or even improbable in the idea of a great migration covering the whole of the megalithic area. Many archaeologists now talk confidently of a very similar but even greater migration which gave to the Mediterranean and other parts of Europe their early neolithic population. The invasion of Central Europe by the so-called Alpine Race is almost an established fact, and in mediaeval times the Arabs covered in their great migrations a considerable part of the actual megalithic area.

If such movements as these were borne in mind the idea of a migration over so large an area as that postulated would lose its terror. After all, the area actually covered is not so large, for in most cases it concerns only the coasts. The whole of Central Europe is left untouched, and even on the shores of the Mediterranean, which must have been somewhere near the centre of the movement, large portions of country such as the Aegaean, Greece, Thessaly, probably the greater part of the Balkans, the whole of Italy except a small corner, and, so far as we know, the whole of Asia Minor are entirely unaffected. In Africa the north shores alone seem to have been affected. In Asia it is difficult to be precise, for exploration is yet in its infancy. Syria and South India must certainly be included in the area, and there are apparently traces in Persia and elsewhere. We do not know enough of the megalithic monuments of Japan* to say whether the movement spread as far east as that country, and it is perhaps better to reserve judgment until we have further evidence as to Japan itself, where incidentally the simple dolmen has not yet been found, and as to the countries which separate Japan from India.

---

* *Archaeolgia*, LV, pp. 439 ff.; *Anthrop. Journal*, 1907 pp. 10 ff.

The criticism which Montelius applied to this migration theory in 1897, even if valid at the time, could hardly be considered so now.* He says that the builders of the megalithic monuments cannot all belong to a single race, for 'in Europe at that time dwelt Aryans, but the Syrians and Sudanese cannot be Aryans.' Now, it may be true that there were Aryans dwelling in Europe at the time, but they were not the only race dwelling in Europe. Moreover, it is precisely in those parts of Europe where Aryans were not living that megalithic monuments appeared, while there is no trace of them in the parts where Aryans were living. He further asks: 'If these forms were built by Aryans, why do they fail to appear in so many Aryan lands?' Here he is fighting a shadow, for no one supposes that they were built by Aryans, and it is precisely because they were not that they do not appear in Aryan countries. Similarly, when Montelius asks 'Why do megalithic monuments occur among the Kelts of the British Isles and France, but not among their close relations in South Germany?' we reply that, strictly speaking, they do not occur among the Kelts of the British Isles, for they were already there when the Kelts came.

Such, as far as I know, is the only criticism which has been made of the migration theory of the megalithic monuments, and despite the high authority from which it comes it seems to leave the theory quite unscathed. Nevertheless, it seems to have been accepted in silence, for since that time until quite lately no voice has been raised to protest. Indeed, one of the latest writers on the subject, Déchelette,† seems to consider the matter as so certain that it needs no discussion, for he says of the single race theory, 'Anthropological observations have long ago destroyed this risky hypothesis.' Unfortunately he is so convinced of this that he omits to tell us what those observations are. The only anthropological observations which can possibly bear on the question are the measurements of the bodies actually found in megalithic tombs. Not many measurements have been taken, but those that have certainly do not destroy the hypothesis of a single race. On the contrary, they rather confirm it. The type of skull found in the tombs shows a strong tendency to dolichocephaly. Thus a set of skulls from the Algerian dolmens ranged in cephalic index from 70·5 to 84·4,* the average being 75·27, and most of the skulls lying within a few units of that average. Ten skulls from the Hypogeum of Halsaflieni in Malta ranged from 66 to 75·1, the average being 71·84.† A series of British skulls, mostly from long barrows, ran from 67 to 77.‡ Similarly the skulls from the Scandinavian megalithic tombs are mainly dolichocephalic. In France the type seems more variable, especially in the dolmens of Lozère, where distinctly brachycephalic heads occur. This fact, so far from disproving the idea that the dolmens were spread by a single race, is not even surprising, for wherever the megalithic builders went they were certain in course of time to become contaminated by intermarriage with the other races with which they came in contact. In many cases we shall probably never be able to detect this contamination, for, as Professor Elliot Smith has rightly pointed out, the megalithic builders would in many cases be of much the same type as the races with whom they were brought face to face. It is precisely in such places as France, where we know there were brachycephalic people dwelling at a comparatively early period, that we are bound to find traces of intermixture. Hence the finding of brachycephalic types in the Lozère does not in any way affect the truth of the theory we are here defending. In fact, it is doubtful whether any evidence based on the occurrence of intrusive types of skull would be really fatal to that theory. If we found that the megalithic tombs of one country gave distinctly different types from those of another, and that in each country the megalithic tombs gave the same types as the non-megalithic types of the same period, the single race theory would be endangered. What we actually have is, as far as we can judge from very scanty observations, a fairly homogeneous type of skull over the whole area examined, with intrusive exceptions in France; and this is precisely what our theory would lead us to expect. The occurrence of 'Giza traits' in one or two of the Algerian skulls to which Professor Elliot Smith refers is in complete harmony with his own theory of the spread of the 'Giza race' in the Mediterranean.*

---

* Montelius, *Orient und Europa*, p. 30 ff.

† *Manuel d'archéologie préhistorique celtique et gallo-romaine*, p. 427.

---

* Faidherbe's measurements, repeated by MacIver in his *Libyan Notes*, Plates 18-19.

† Zammit and Peet, *Small objects found in the Hypogeum of Halsaflieni*, p. 24.

‡ Sergi, *Europa*. I have not the book by me to give the page reference.

In suggesting a single place of origin for the monuments, we perhaps lay ourselves open to a request to say where such place of origin was. Montelius conceived the dolmen as coming from the east, i.e., from Asia, and he has been generally followed. Reinach, in his remarkable paper *Le Mirage Oriental*, protested against this, and suggested that the megalithic monuments arose in North Europe.† He argued that the earliest types, such as the dolmen, occurred most frequently in Scandinavia and became rarer as one moved south. This last statement is true of Germany, but it goes no further, for the simple dolmen was known even at that time in South Italy, and it has since been found in Malta and Sardinia. The argument sometimes urged that the movement was from north to south, because in France the more northerly monuments are neolithic in date while the more southerly belong to the copper age, is fallacious, because copper may well have been introduced into the south of France earlier than into the north.

Mackenzie seems inclined to suggest North Africa as the original home of the megalithic monument.‡ It is possible that he is right in this, and that, just as in the early neolithic period, some natural phenomenon, perhaps the decrease of rainfall in what is now the Sahara, drove the hordes of North Africa into the islands of the Mediterranean and into Europe, so, at the end of that period, a further decrease produced a second great migration and gave us the megalithic monuments. Yet, however probable this may seem, it remains, and perhaps always will remain, in the region of conjecture.

There are many points in connection with the megalithic monuments which are not yet clear, and probably never will be. The present paper is nothing more than an attempt to account for the facts as we have them. Future discoveries may enable us to pronounce more definitely. One thing, however, is certain, namely, that in this question *a priori* reasoning based on insufficient knowledge of the facts can never lead to truth. It would place discussion on a much higher level, would all those who wish to take part in it begin by making a minute study of such works as those of Pinza, Taramelli, Nissardi and Mackenzie on Sardinia, or of those of Zammit, Tagliaferro and Ashby on Malta, to mention only two small regions of the great area in which megalithic monuments occur.

---

* *Ancient Egyptians*, p. 158-9.

† In *Anthropologie*, 1893, pp. 557 ff.

‡ *Papers of the British School of Rome*, V, p. 136.

A CYPRIOTE FIBULA OF THE EARLY IRON AGE, NOW IN THE ASHMOLEAN MUSEUM

By JOHN L. MYRES

PLATE XVI

In the last volume of these *Annals* (pp. 138-144) I submitted a note on a type of fibula of the Early Iron Age, apparently peculiar to Cyprus, but derived, as I ventured to suggest, from one of those western types of fibula—called *fibula serpeggiante, fibula a gomito,* by Italian archaeologists—which have one or more loops in the bow in addition to a spring coil at the junction of bow and pin.

The transition from an elastic loop of this kind to a solid knob seemed to me to be recorded in one extant example of this type (now in the Cesnola Collection in New York), which has the solid knob hollowed on either side as if to copy the inner surface of such a loop. This detail conveys the impression that the maker of this fibula had not yet wholly forgotten that this part of the bow was properly intended to be elastic.

Since that note was published, another example of this type has been acquired by the Ashmolean Museum from Dr. Max Ohnefalsch-Richter, who obtained it from a native of Cyprus, together with a small pair of bronze tweezers which seems to be Graeco-Roman. He was not able, however, to learn any trustworthy account of its discovery. By the kindness of the Keeper of the Ashmolean Museum, I am permitted to publish it here.

The interest of this example is that it represents a stage of degeneration intermediate between that of the New York fibula (*Annals* III, Pl. XXXII, 8) and the commoner variety (Pl. XXXII, 4-7) in which the knob is pear-shaped or olive-shaped, and has no lateral hollows. Here, though the hollow exists, it no longer has the form of a loop, but is circular in plan, and a shallow cone in cross-section. The maker, that is, seems to have intended to copy a fibula like that in New York, but did not understand the meaning of the lateral hollows, and used the simplest means—an obtuse-angled drill—to produce the same general effect. From this stage it was but a small step to omit the hollow altogether, as in the common variety; a fragmentary example of which, from the Cypriote tomb which I published in *Annals*, Vol. III, pp. 107-117, was the occasion of my former note on this type of fibula.

In the course of a long correspondence about this fibula and other matters, Dr. Ohnefalsch-Richter has called my attention to three points in my former note.

(1) He thinks that I ought to have quoted explicitly some remarks on this type of Cypriote fibula from his paper in the *Zeitschrift für Ethnologie* XXX, 1899, p. 342, cf. fig. xxv. At his request I give this reference now, but I am still under the impression that the eighteen lines which he devotes to this type in the *Zeitschrift* are in essentials an expansion of our joint work in the *Cyprus Museum Catalogue* (Oxford, 1899), p. 138; and this I duly quoted (*Annals*, Vol. III, p. 139, note 1).*

(2) He thinks that I ought to have quoted explicitly his remarks in the same paper (pp. 330-1, fig. xxii, see also p. 36) on the Cypriote tomb, now in the Leipzig Museum, which I discussed in *Annals*, Vol. III, pp. 107-117. I am sorry that I omitted to do so; and particularly that I omitted to verify the assurance which I had from him formerly, that the tomb was unpublished, and that, though he intended to publish it himself, in a long delayed volume, I was free in the meanwhile to write about it if I pleased. At his request I name now this previous 'publication' of the tomb—it occupies just twenty-five lines on pp. 331-2 of his paper. I take also this opportunity of referring the reader to my former note, in which Dr. Ohnefalsch-Richter's former interest in this tomb was in fact fully acknowledged.

(3) He also thinks that I ought to have mentioned, in connexion with this tomb, an essay on the Sigynnae by George Colonna-Ceccaldi, published in his *Monuments antiques de Chypre, de Syrie, et de l'Egypte*, 8vo, Paris, 1882. I am the more glad to make good this omission, because I know the book well, and have a high respect for the memory of Ceccaldi. But Ceccaldi's

---

* On reading his paper again, I find that in a footnote (l.c. note 3) he compares Sicilian fibulae, quoting B. Patroni, *Bull. Paletn. Ital.*, 1896, p. 32, fig. 30, but he gives no details or explanation.

suggestions about the Sigynnae did not seem to me to be of much value, and as I was not conscious that I owed anything to his essay, I did not see any need to quote it, in discussing a type of spear which had not been discovered when he wrote. After reading it again, I think so still; but at Dr. Ohnefalsch-Richter's urgent request, I take the first opportunity of calling public attention to it: regretting only that, if it really anticipates later studies, Dr. Ohnefalsch-Richter did not himself quote it when he 'published' this tomb in 1899.

SOME CULTS OF PREHISTORIC EGYPT

I

By PERCY E. NEWBERRY

On certain examples of the Decorated* Pottery of Prehistoric Egypt are found drawings of ships† with emblems or cult-objects figured at their mast-head (fig. 1). These ships are apparently

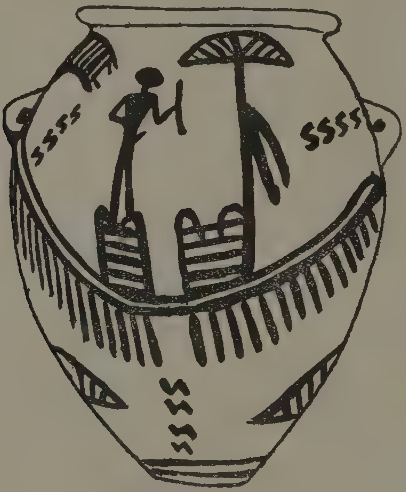


Fig. 1. Decorated Vase (Newberry Collection).

---

* On this class of Pottery see Petrie, *Diospolis Parva*, p. 15.

† When drawings of these objects were first described and published objections were raised to identifying them as boats (Cecil Torr, *Sur quelques prétendus navires égyptiens*, in *l'Anthropologie* IX [1898], p. 33). But, as Prof. Petrie remarks 'the discovery of much larger and more elaborate paintings on the walls of a tomb at Hierakonpolis [*Hierakonpolis* II, pl. LXXV] have abundantly proved that we have here the earliest shipping yet known' (*Diospolis Parva*, p. 15). De Morgan (*Recherches sur es origines de l'Égypte* I, 1896, p. 161); Schweinfurth (*Ornamentik der ältesten Cultur-Epoch Ægyptens* in *Verhandlungen der b. Gesellsch. für Anthropologie, Ethnologie und Urgeschichte*, 1897, p. 400); Capart (*Les début de l'Art en Égypte*, 1904, p. 108); and most other Egyptologists agree that these drawings represent boats. Loret, however in the *Annales du musée Guimet*, XIX [1906], pp. 173-175, still refuses to admit them to be boats and asserts that they are villages with shrines. The drawing that he gives of one of these objects (p. 175, fig. 1) has been, it should be pointed out, adapted to suit his theory for he has actually omitted to show the tying-up rope at the prow and the three steering oars at the stern (!) and in place of the Elephant ensign he gives the Harpoon. His interpretation of the design given in fig. 2, p. 175, is based on this inaccurate drawing and is, therefore, most misleading. The particular boat that he figures I give in fig. 2, and I would advise those interested in the matter to compare my tracing with Loret's drawing.

large vessels or galleys with from twenty to sixty pairs of oars apiece. The prow of each vessel is decorated with one or more tree branches stuck upright upon it, and hanging from the prow is shown, in several instances, the end of the tying-up rope. At the stern, in two examples, are figured large steering oars (fig. 2).

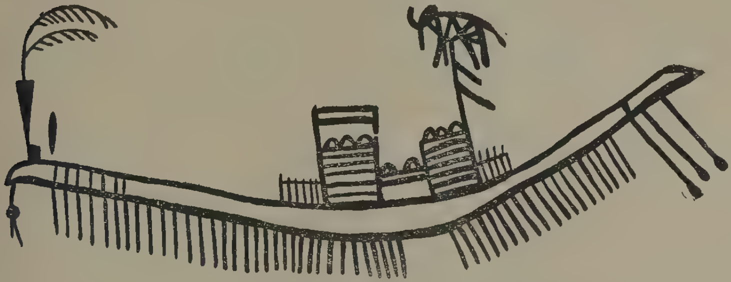


Fig. 2. Boat on a Vase in the Ashmolean Museum.

Amidships each boat has two deck-cabins, and at the back of the aft-cabin is shown a pole, on top of which an emblem or cult-object is fixed; from near the top of, or from half-way up, the pole, two pendants are suspended. These poles correspond to the poles or 'perches' which were surmounted by sacred emblems in historic times, and the two pendants then appear as leopards' tails (fig. 3). From the fact that these ships carry sacred emblems

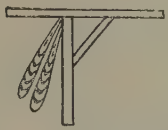


Fig. 3. The Sacred Perch.

there can be little doubt that they were sacred vessels used by the priests of a cult for the gods' journeys or visitations up or down river: that such visitations were of common occurrence, especially in early times, is proved by the inscriptions on the Palermo Stone,‡ where a 'visitation' is given as the principal event of certain years of the reigns of kings of the First Dynasty. The form of these sacred boats on the Palermo Stone is shown in fig. 4, and alongside I give a drawing of the Manzet-barque of Ra as it appears in the Pyramid Texts. It will be noted that in the latter we have the two deck-cabins with Falcons on their perches above them. The brick substructure for a large sacred vessel, dating from the reign of Ne-woser-re, was cleared by Borchardt at Abusir in 1901.§ In later times models of these sacred boats were constructed and were carried in procession by the priests at religious festivals. In one case a model of the prehistoric ship with the cult-sign upon it survives into historic times; this is in the ensign of the Seventh Nome of Lower Egypt, which represents a harpoon and boat surmounting the sacred perch (fig. 5).

---

‡ Schäfer, *Ein Bruchstück Altägyptische Annalen*, p. 8.

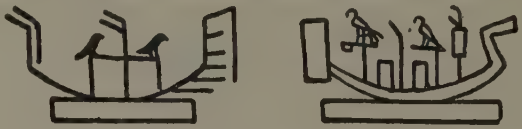


FIG. 4. Sacred Boats: (*a*) Palermo Stone; (*b*) Pyramid Texts

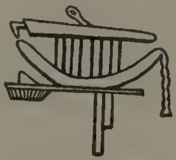


FIG. 5. Emblem of the Harpoon Nome.

The vases upon which these prehistoric cult-signs are drawn have been found in graves from Kostamneh in Nubia in the south, to Gizeh in the north; they are very rare, and the average is perhaps not more than two or three per thousand graves explored. They belong to a class that is made of a peculiar kind of pottery, which in paste, colouring and decoration is unlike any other pottery that has been found in the Nile Valley.* So foreign does it appear that Professor Petrie at first suggested that the pottery was probably imported from some other people,† i.e., from a people outside Egypt. About one hundred and sixty of these vases have figures of boats drawn on their bowls; sometimes only one boat is figured on a vase, sometimes there are two, three, or even four boats depicted on the same vase. 'The great boats or galleys with long banks of oars show that the makers of these vases were not an inland people of the oases, but dwelt on some large river or sea.'‡ Often we see on them, and on other vases of the 'Decorated' class, one or more birds figured; these birds have been generally supposed to be ostriches, but the curved beak, which is very characteristic of them, shows that they really represent flamingoes (fig. 6). The flamingo is an extremely local bird; it seldom occurs in Upper Egypt, but is abundant in the region of the Delta Lakes. On these vases we also find depicted stretches of water and lines of pointed hills or sand-dunes, which suggest hilly or sandy country like that along the western and northern edges of the Delta. These three points indicate at once a country like Lower Egypt, and when we examine the cult-signs of the boats we see that these point Delta-wards also.

---

§ *Ä.Z.* XXXIX, p. 5, *Abb.* 4.

* Petrie, *Naqada*, p. 40.

† *ibid.*, p. 40.

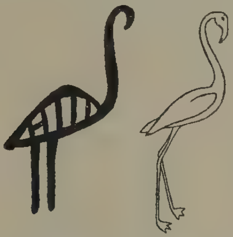
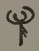
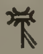


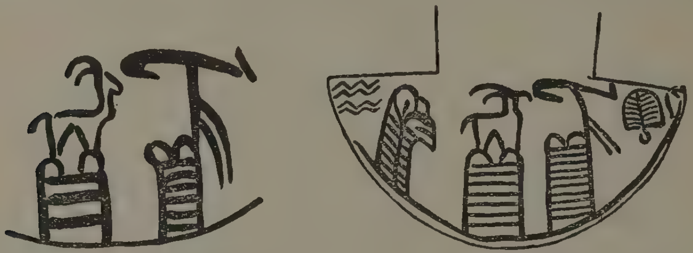
FIG. 6. The Flamingo. The figure on the left is from a Prehistoric Vase.

A list of all the cult-signs which appear on these vases is given on pp. 137-142. On the one hundred and fifty-nine that I have catalogued there are two hundred and eighty-eight figures of boats with cult-signs. Of these, one hundred and sixteen bear the 'Harpoon' ensign, sixty-six the 'Hill' ensign, and fourteen the 'Crossed Arrows' ensign. These cults all survive into historic times—the 'Harpoon' is the ensign of the Seventh Nome of Lower Egypt, the 'Hill' was the early ensign of the Sixth Nome, and the 'Crossed Arrows' was the ensign of the Fourth and Fifth Nome of Lower Egypt. Thus it will be seen that out of the two hundred and eighty-eight boats with cult-signs, no less than one hundred and ninety-six belong to the Western half of the Delta. Twenty-two boats bear the 'Tree' or 'Tree-branch' ensign, which, as I have shown elsewhere,* was the early cult-object of Herackleopolis. Nine boats bear the 'Thunderbolt' ensign of Ekhmîm. The Falcon on a curved perch appears at the mast-head of three boats, and this ensign undoubtedly represents the later Falcon of Hieraconpolis. The Elephant, which is found on a single vase, was perhaps the cult-animal of the people of Elephantine.

---

‡ *ibid.*, p. 40.

Besides the cult-signs already mentioned, and which we can locate with comparative certainty, there are also a few others which, unfortunately, we cannot be so sure about. On one boat there is over the aft-cabin a 'Harpoon,' and over the fore-cabin a 'Goat'; these two are found again on a prehistoric dagger handle in the Cairo Museum (fig. 7). The Goat is shown standing on the top of the fore-cabin, and may possibly represent a cult-animal: if this be so, then it is perhaps the Goat of Mendes. The 'Throwstick' as an ensign upon a pole appears on three boats; this cult-object reappears in historic times as the deity Methen, who is mentioned in the Pyramid Texts,† and whose name is again found in a few theophorous personal names on stelae of the late Middle Kingdom.‡ Four cult-signs I cannot trace into historic times. These are:—the  which occurs on thirty-six boats; the  which is found on eleven; the on three; and the on one. The latter ensign is certainly not the later *ka*, for no hands are indicated.



Cult signs on a Vase (MacGregor Coll.). Cult Signs on Dagger Handle (Cairo Mus .

Fig. 7

(To be continued.)

---

* *Ä.Z.* XLIX.

† Ed. Sethe 952, and see also Spiegelberg, *Rec.* 16, 27,

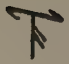
‡ Cairo, *Cat. gen.* 20046, 20065, etc,

LIST OF VASES WITH CULT-SIGNS

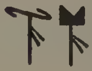
By PERCY E. NEWBERRY

The following Collections contain one or more of these Vases, and I should be grateful if any Collectors who own specimens not included in my list would send me particulars of them. For notes on the examples in the Metropolitan Museum of Art, New York, and in the Boston Museum, I am indebted to Mr. A. C. Mace; and for notes of those at Brussels, I have to thank Monsieur Capart. The specimens in other collections I have catalogued myself. The abbreviations are used to denote the various collections in my list of Cult-signs: the small figure placed after the Collection number (*e.g.*, Brist. 100^3) signifies that the cult-sign is figured on the vase two ^{2} or three ^{3} times.

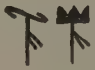
Ashm. = The Ashmolean Museum at Oxford.
Behrens = Randolph Behren's Collection at South Kensington.
Berl. = The Egyptian Museum at Berlin.
Bootle = The Museum at Bootle, Lancashire.
Boston = The Museum of Fine Arts, Boston, U.S.A.
Brist. = The Museum at Bristol.
Brit. = The British Museum.
Brus. = The Royal Museum, Brussels.
Cairo = The Cairo Museum.
Dattari = G. Dattari's Collection, Cairo.
Edinb. = The Archaeological Museum, Edinburgh.
Guimet = The Guimet Museum, Paris.
Kelek = D. Kelekian's Collection, Paris.
L. = The Egyptian Museum of the Louvre.
L.-Smith = Linton Smith's Collection, Blundellsands, Lancashire.
Leyden = The Leyden Museum.
LIA. = The Institute of Archaeology of the University of Liverpool.
Lyons = Palais des Arts, Lyons.
Manc. = The Manchester Museum.
MG. = W. MacGregor's Collection, Tamworth.
MMA. = Metropolitan Museum of Art, New York.
Murch = The Murch Collection (now at Chicago).
Newb. = P. E. Newberry's Collection, Liverpool.
Petrie = Flinders Petrie's Collection, University College, London.
Rea = James Rea's Collection, Eskdale, Cumberland.



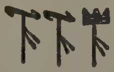
Ashm. 1895/572^{2}, 1895/605
Berl. 13051. 13823. 14166 14361. 14363^{2}
Brist. 100^{3}. 226^{2}
Brit. A 16793^{2}. 26636^{2} 26657^{2}. 36326
Brus. 1715 (=Naqada 852), 1931 (=Naqada 810)
Cairo. 11566. 11567^{2}
Edinb. 590
Guimet. One
LIA. Three^{2}
MG. 3370^{2}
Manc. One^{2} (=Naqada 562)
MMA. 07/228/134. Two others^{2}
Murch. One^{2}
Newb. Three^{2}
Petrie. One^{2}
Cairo and Luxor Dealers. Six^{2}



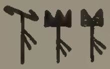
Brist. 225
Cairo. One
LIA. One
MMA. 07/228/60 and another
Petrie. One
Rea. One
Luxor and Cairo Dealers. Four



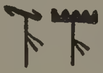
Berl. 14362
Cairo. 11569



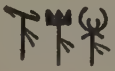
Leyden A III. 82



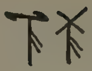
Cairo Dealer. One



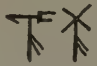
Brit. A. 36328.
MMA. 3367
MMA. One



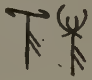
Brit. 36328
Petrie (= *Naqada* LXVII. 12 from Abydos)



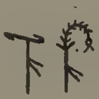
Ashm. (= *Diospolis Parva* XX. 11)
Boston. 99/712



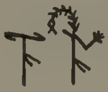
Diospolis Parva XX. 9



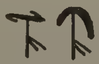
Ashm. 1895/600/1209 (= *Naqada* LXVII. 11). Another *Naqada* LXVI. 7
Berl. $\frac{12\ g\ 10}{1}$
Bootle. One
Cairo. One
MG. 3369
Naqada LXVII. 7
Newb. Two
Cairo and Luxor Dealers. Four



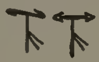
Ashm. 1895/595/1268 (= *Diospolis Parva* XX. 1 & 2)
Manc. 5299 (Gerzeh
MMA. 07/228/125
Cairo Dealers. Three



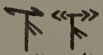
Naqada LXVI. 3



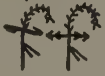
Dattari. One



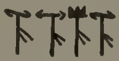
Leyden. A. III. 69



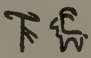
Luxor Dealer. One



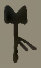
LIA. One



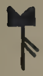
Naqada LXVI. 8



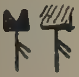
MG. 3493

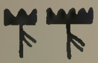


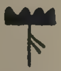
Behrens. One^{2}
Brist. 88^{2} (= *El Amrah* XIV. D. 51) 104

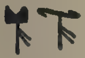

ctd.

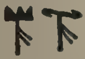
Brit. 36327[3]
Cairo. One[3]
Kelek. One[2]
LIA. One[2]
Manc. One[2] (= *Naqada* 1840)
Petrie. One[2]
Cairo and Luxor Dealers. Five[2]

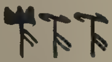

Naqada LXVI. 4

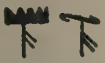

Ashm. 1895/570, 1895/578/1680 (= *Naqada* LXVII. 13)
LIA. One

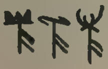

Brit. 30920
Kelek. One[2]

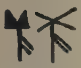

Eleven*

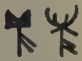

Two

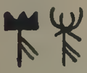

One

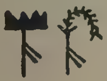

Three

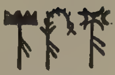

Two

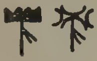

Naqada LXVI. 5

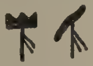

Newb. One
Lyons

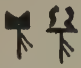

Brit. 35502

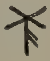

Berl. 13822
Brit. 30920
Diospolis Parva XX. 8
Newb. One

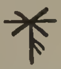

Ashm. 1895/577/1873 (= *Naqada* LXVI. 10)

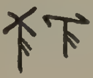

LIA. One

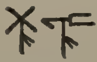

Petrie. One

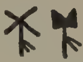

MMA. One

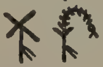

Berl. $\frac{1024}{2}$
LIA. One[2]
Lyons[2]
MMA. One[2]

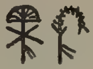

LIA. One

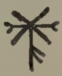

Two

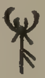

One


One

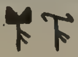
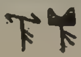

Petrie (= *Naqada* LXVI. 9 from Abydos)

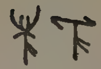

Naqada LXVI. 9

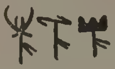

Petrie. One

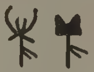

Berl. 13824. 13826[2]
Brist. 164
Cairo. Three
L.-Smith. One
Manc. 3755[2] (Edfu)
MMA. Two (one with[2])
Petrie. One
Rea. One[2]

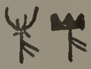
---

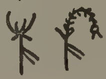
* Where *names* of the Collections are not given, the numbers refer to the number of vases on which the cult-signs occur; the Museum references will be found under the *second* cult-sign figured (*e.g.*, for the eleven examples of  see under ).

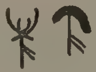

Eleven

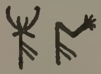

Two

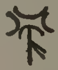

One

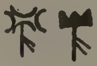

One

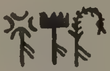

Ashm. 20/5/1891
Brist. One (El Amrah ?)
Brit. 26635

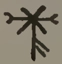

Berl. 13227

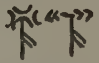

Diospolis Parva XX. 4 (= Brist. 164)

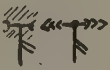

MMA. 07/228/136
Petrie. Two (one with[2])
L. One

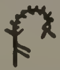

One

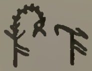

One

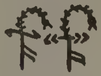

One

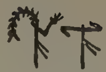

Berl. 14317
MMA. 07/228/126
Naqada LXVI. 6

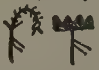

Cairo, One

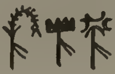

None alone

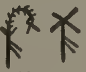

Six

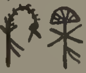

One

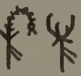

One

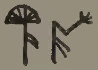

Four

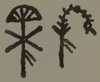

One

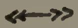

One

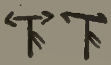

Naqada LXVI. 9

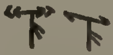

Three

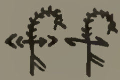

Newb. One

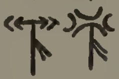

One

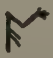

Berl. One
Newb. One

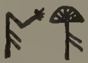

One

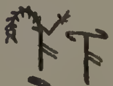

One

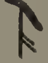

One

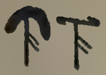

Four

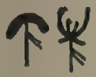

None alone

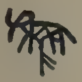

One

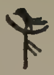

One

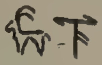

Murch. One[3]

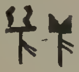
 One

 One

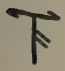
 Ashm. 1895/684[2] (= *Naqada* LXVII. 14)

 Ashm. One[2] (= *Diospolis Parva* XVI. 41)
Newb. (Kostamneh).

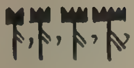
 One

 One

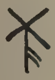
Total number of Vases catalogued 159. Number of boats figured 288.

 Occurs alone on 38 Vases with 65 boats.

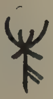
with other cult-signs on 51. Total 116.

 alone on 22.

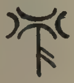
with other cult-signs on 44. Total 66.

 alone on 6.

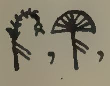
with others on 8. Total 14.

 alone on 12.

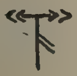
with others on 24. Total 36.

 alone on 4.

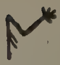
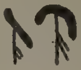
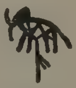
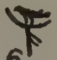
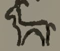
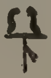
with others on 8. Total 12.

 not found alone.

with others on 22. Total 22.

 alone on 2.

with others on 7. Total 9.

	Occurs with others on 3. Total 3.
	alone on 1. with others on 2. Total 3.
	alone on 2. Total 2.
	alone on 3. Total 3.
	with another on 1. Total 1.
	with another on 1. Total 1.

INDEX

Abydos (Egypt), Vase of Minoan fabric from —107
Achaeans, the—1, 7, 10, 13, 14, 15, 16, 20
Adams, W. J. Phythian—63, 71
Akaiuasha, the—20
Amber—18
Amenemhat III, King—109, 110
Anatolia—20
Armour, Homeric—1
Arrow-heads, Homeric—13
  „ Mycenaean—13
Aspelut, King—81, 82
Augustus, Head of, from Meroë—83

Barnard, Professor F. P.—21, 97
Beattie, Hamilton—63, 71
Boats figured on Pottery of Prehistoric Egypt —132
Breastplates, Homeric—9
Burial, Homeric modes of—15

Casting Counters or Jettons—21, 97
Cattle, Homeric—14
Chariot wheels, Homeric—13
  „ „ Late Mycenaean—13
Copper—119, 120, 122
  „ in Egypt—122
Corselets, Homeric—9
Counting boards—62
Cremation—16
Crete—10, 16, 17, 18, 111
Curium—10, 11
Cults of Prehistoric Egypt—132-141
  „ The Bent Arm and Hand—136
  „ The Crossed Arrows—135, 139
  „ The Elephant—136, 141, 142
  „ The Falcon—136, 141, 142
  „ The Goat—136, 138, 142
  „ The Harpoon—135, 136, 138
  „ The Hill or Mountain—135, 138, 139
  „ The Throwstick—136, 140, 141, 142
  „ The Thunderbolt—136, 140
  „ The Tree or Tree-branch—135, 140
  „ Unidentified—136, 141
Cyprus—2, 8, 10, 11, 18, 19

Decorated Pottery of Prehistoric Egypt—132
Dipylon Vases—3, 7, 17, 18
Dolmens, see Megalithic Monuments.
Dorian Shield—19
Dress, Homeric—10

Egypt, Copper in—122
  „ Cults of Prehistoric—132, 137
  „ Iron in—18
  „ Nome signs of—134
Egyptian Influence in Mycenaean Art—18
Enkomi—5, 7, 9, 10, 11, 19
Ergamenes—82, 83

Fibula, A Cypriote—129
Fibulae—10, 11, 16, 18
Flamingo figured in Prehistoric Egyptian Pottery—135

Garstang, Professor J.—63, 73, 107
Geometric Period—3, 5, 9, 15, 16
Girdle of Rameses III—84
Glasinatz—8, 19
Greaves, Homeric—7

Hagia Triadha—9, 14
Hair, Dressing of, in Homeric times—13
Hall, H. R.—12
Helbig, Professor—6, 9, 19
Helmets, Homeric—8
Hittites—65, 66, 67
Homeric Armour—1
Hor-ma-tileq, King—81

Ialysus—2
Iron, Use of, in Homer—3, 12

Jadeite—119
Jettons or Casting Counters—21, 97
Jobba Eyuk—65, 68

Kakovatos—5
Kavousi—6, 8, 17
Kefridiz Eyuk—65

Lee, Thorold D.—84
Lewis, A. A.—113
Linen Girdle of Rameses III—84
Luka, The—20
Lycia—19, 20

Megalithic Monuments—112
  „ „ at Ala Safat, Syria—116
  „ „ at Annaclochmullen—115
  „ „ at Caithness—115

Megalithic Monuments—
,, ,, in Africa—116
,, ,, ,, Algeria—117, 118
,, ,, ,, the Balearic Islands—114, 115,118, 121
,, ,, ,, the British Isles—116, 118
,, ,, ,, Bulgaria—118
,, ,, ,, the Caucasus—116
,, ,, ,, Cornwall—116
,, ,, ,, Corsica—116, 118
,, ,, ,, the Crimea—117
,, ,, ,, the Deccan, Indian—115
,, ,, ,, France—116, 118, 119
,, ,, ,, Germany—115, 116, 118
,, ,, ,, Holland—115
,, ,, ,, India—116
,, ,, ,, Ireland—115
,, ,, ,, Isle of Man—116
,, ,, ,, Italy—118
,, ,, ,, Japan—112, 118
,, ,, ,, Lampedusa—118
,, ,, ,, Malta—115, 118, 123
,, ,, ,, Morocco—118
,, ,, ,, Palestine—116
,, ,, ,, Persia—118
,, ,, ,, Portugal—118
,, ,, ,, Sardinia—114-118, 121
,, ,, ,, Scandinavia—115, 116, 118
,, ,, ,, Spain—116, 118, 122
,, ,, ,, Sweden—116
,, ,, ,, Syria—115, 116
,, ,, ,, Tripoli—118
,, ,, ,, Tunis—118
Mackenzie, Dr.—1, 17, 127
Mal-neqen, King—81
Markopoulo—3
Megaron fresco—2
Menidi—9
Meroë—73-83
,, Classical Temple—76
,, Roman Baths—75
,, Royal Baths—77
,, Royal City—74
,, Sun Temple—82
,, Temple of Amon—82
,, ,, Isis—82
Minoan Period, The—7, 10-12, 17-19, 107
Mirrors, Mycenaean—18
Muliana—3, 5, 6, 15
Mycenae—1, 2, 5-9, 11, 13
Mycenaean Age—1, 2, 17, 107
,, Art—1, 2, 10
,, Craters—2
,, Tomb—1
Myres, Professor J. L.—129

Nauplia—2, 3, 8, 15
Nuraghi, The, of Sardinia—114, 117, 121
Pears, Sir Edwin—64
Peet, T. E.—112
Phaistos disk, The—7, 19

Rameses III, Linen Girdle of—84
Reckoning Cloth, The—62
Rhodes—18
Ridgeway, Professor—4, 6, 8-11, 19

Sagalassi, The—20
Sakje Geuzi—63
Salamis—14, 16, 17
Sardians, The—20
Sayce, Professor A. H.—73
Schliemann, Dr.—1, 3
Senmut, Tomb of—12
Senusret III, King—109, 110
Sesi, The, of Pantelleria—114
Shakalasha, The—20
Shardina, The—19, 20
Shields, Dorian—19
,, Homeric—6, 17, 19
,, Mycenaean—6, 19
Sinjerli—67
Smith, Professor Elliot—112, 122, 127
Songrus Eyuk—64, 65
Spata—9
Spears, Homeric—8
,, Mycenaean—8
Swords, Homeric—12

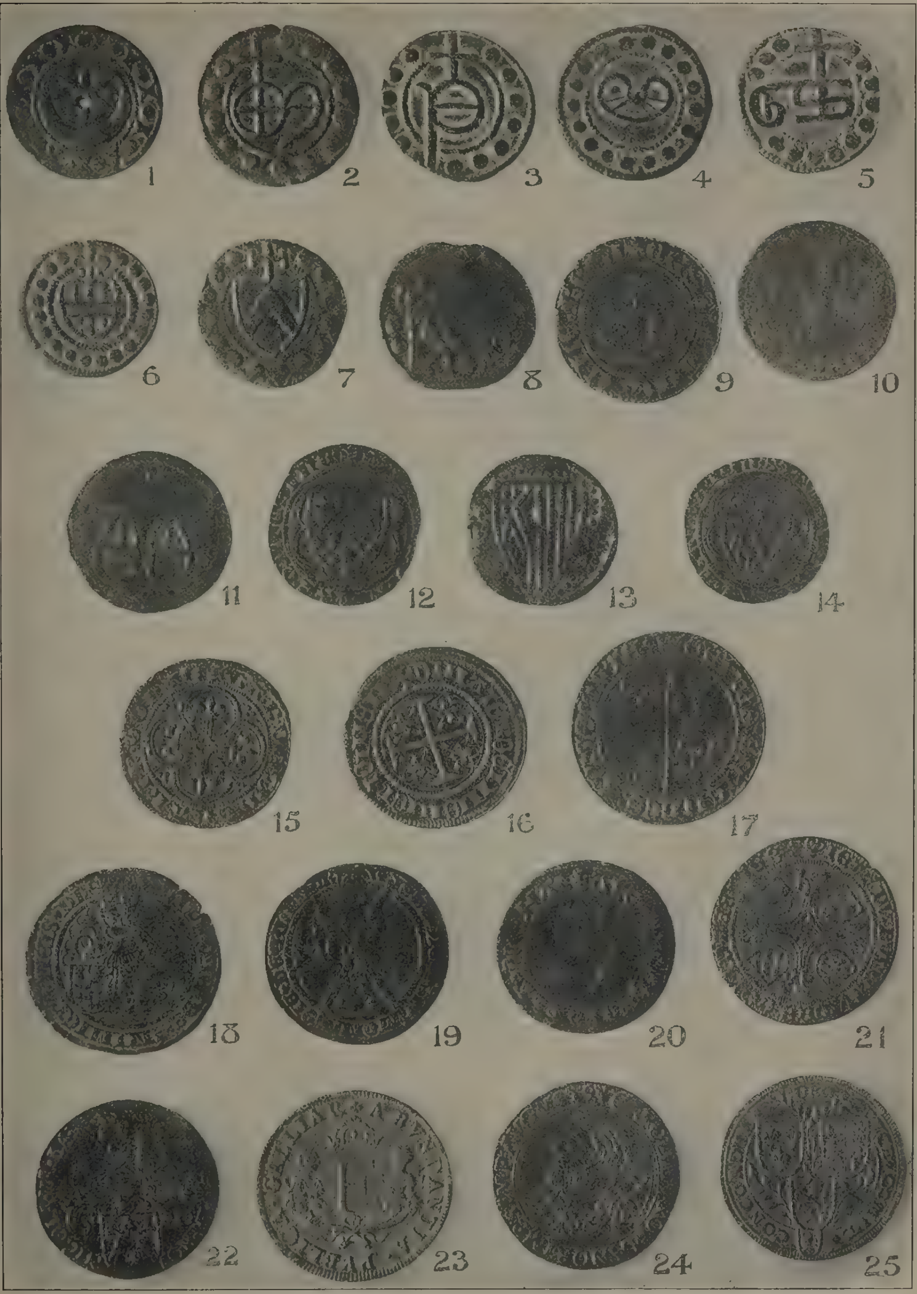
Talayots of the Balearic Islands—114, 121
Theotokou—16
Thompson, Maurice S.—1
Tiryns—3
Turquoise—119
Turusha, The—20
Tylissians, The—20

Vaphio Tomb—5
Vase of Minoan Fabric from Abydos—107

'Warrior' Vase—1-3, 7-11
Wilkin, Dr. Arthur—63

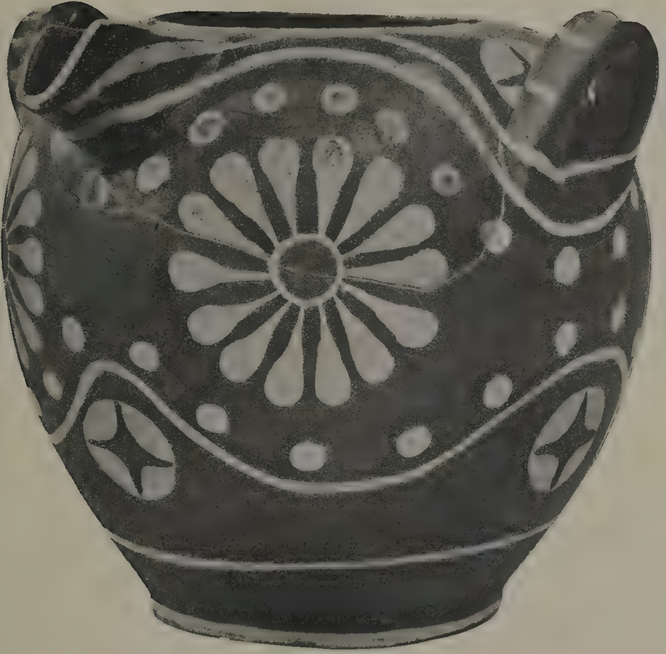
C. TINLING AND CO., LTD., PRINTERS TO THE UNIVERSITY PRESS OF LIVERPOOL VICTORIA STREET

PLATE XII.



JETTONS OR CASTING COUNTERS.

ABYDOS: EGYPT. MINOAN VASE.



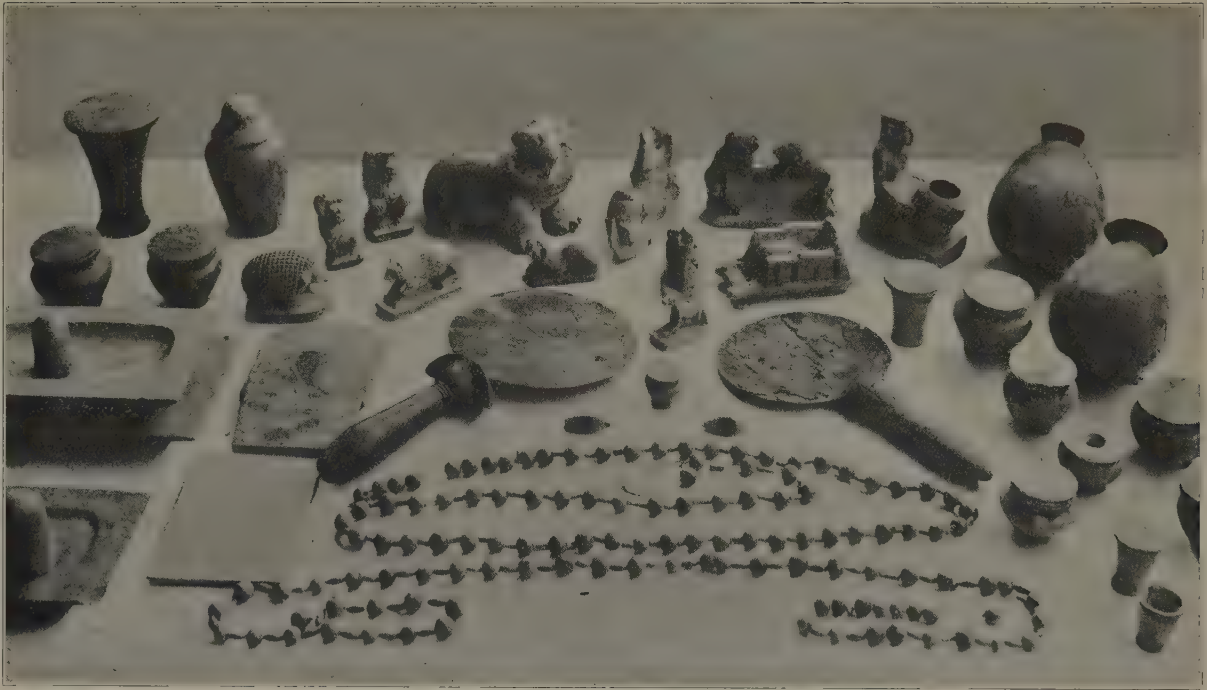
VASE OF CRETAN FABRIC FROM AN EGYPTIAN TOMB.

Height 13·50 cms.; width 15 cms.; projection of spout, 4 cms.

The body colour is dull black. The lines are yellowish-white; the spots are of the same colour, on an orange band. The rosette is yellow-white with orange centre: the stars are orange on white. The inside is of reddish tinge, with a grey-black band around.

Found in Tomb 416, Abydos, 1907, with the group shown on Pl. XIV.

ABYDOS: EGYPT.

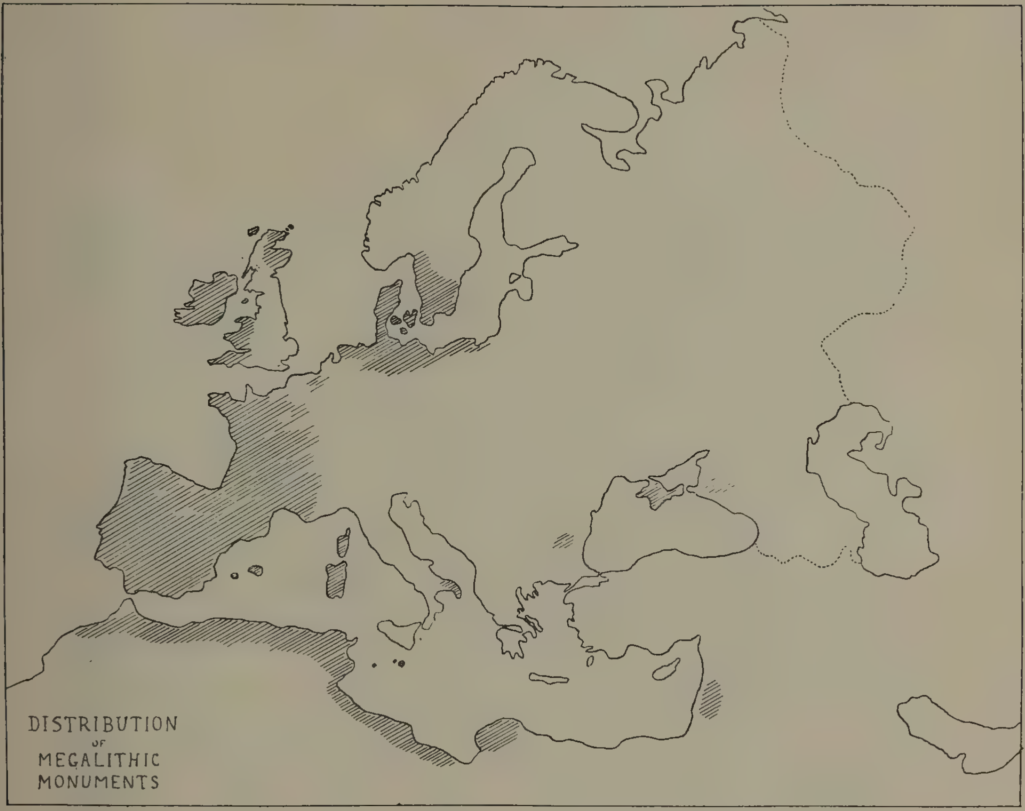


Tomb 416. A. '07.

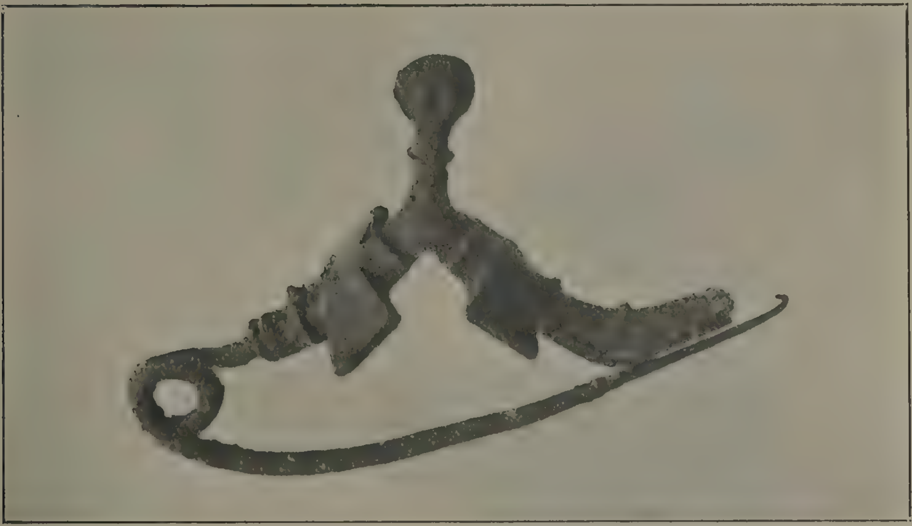
SELECTED GROUP OF OBJECTS FROM THE TOMB DEPOSIT. .

(Now in the MacGregor Collection (Tamworth) and the Ashmolean Museum.)

See p. 108.



MAP TO SHOW THE DISTRIBUTION OF MEGALITHIC MONUMENTS IN EUROPE, AFRICA AND WESTERN ASIA.

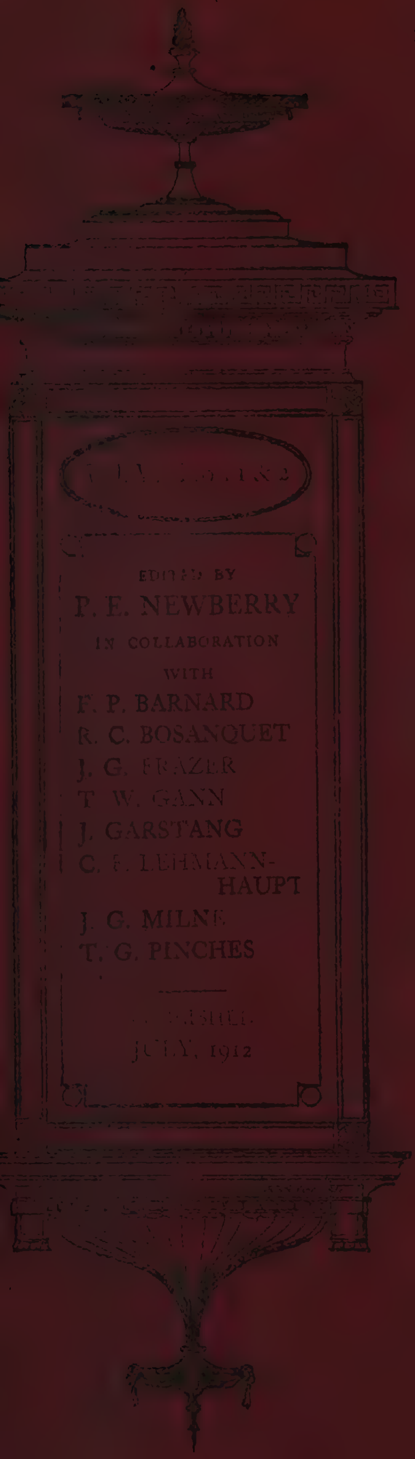


A CYPRIOTE FIBULA OF THE EARLY IRON AGE.

VNIVERSITY OF LIVERPOOL

ANNALS
OF
ARCHAEOLOGY
AND
ANTHROPOLOGY

Issved by
The Liverpool
Institvte of Archæology



[illegible]

EDITED BY
P. E. NEWBERRY
IN COLLABORATION
WITH
F. P. BARNARD
R. C. BOSANQUET
J. G. FRAZER
T. W. GANN
J. GARSTANG
C. F. LEHMANN-HAUPT
J. G. MILNE
T. G. PINCHES

PUBLISHED
JULY, 1912

LIVERPOOL: AT THE UNIVERSITY PRESS
LONDON: CONSTABLE & COMPANY LTD.

LIVERPOOL UNIVERSITY INSTITUTE OF ARCHAEOLOGY

Annals of Archaeology and Anthropology

These Annals are designed for the publication of the results of studies undertaken in connection with the Liverpool University Institute of Archaeology.

They include preliminary Reports of the Expeditions and Excavations undertaken on behalf of the Institute or by members of its staff; and also more detailed descriptions of the materials collected in the course of these enquiries.

They will also include Reviews of the principal archaeological publications which bear upon those departments of archaeology and anthropology upon which members of the Institute are engaged.

It is hoped also that it may be possible to print occasional Summaries of the work which is being done by other Societies and Institutions in these fields of enquiry. Such reports will usually be compiled by members of the staff of the Institute; but the opportunity will be taken of securing such reports also from other students who are best fitted to supply them.

The Annals usually appear in four quarterly sections, but the Editor reserves discretion to issue two or more sections simultaneously according to the special needs of the moment.

Each section of the Annals will consist of not less than 32 pages of printed matter and four full page plates. But it may be convenient to issue, in a particular number, either more plates or more letterpress according to the character of the communications contained in the section.

The annual subscription to the Annals is Ten Shillings and Sixpence, but each quarterly section may be obtained separately at 3s. and double sections at 6s.

Subscriptions will be received by the University Press of Liverpool, 57 Ashton Street, Liverpool; or by the London Agents of the University Press, Messrs. Constable & Company Ltd., 10 Orange Street, Leicester Square, London, W.C.

CONTENTS

PAGE

Some Notes on Homeric Armour. MAURICE S. THOMPSON ... 1

Catalogue of Jettons or Casting-Counters, for use on the Counting-Board or Chequer, at the Institute of Archaeology in the University of Liverpool. F. P. BARNARD. (*With Plates I, II*) 20

Second Interim Report on the Excavations at Sakje-Geuzi in North Syria, 1911. JOHN GARSTANG. (*With Plates III, IV, V*) 63

Third Interim Report on the Excavations at Meroë. JOHN GARSTANG. (*With Plates VI, VII, VIII, IX, X*) ... 73

The Linen Girdle of Rameses III. THOROLD D. LEE. (*With Plate XI*) 84

Double Part: Price Six Shillings

The price of Volumes I, II and III of these Annals has been raised from Ten Shillings to Twenty Shillings.

The price of Volume IV will be raised from Ten Shillings and Sixpence to One Guinea at the end of 1912.

BINDING.—Subscribers wishing to bind Vols. I, II, III and IV can have these bound at a special rate by Messrs. Fazakerley, Bookbinders to the University of Liverpool, Paradise Street, Liverpool. The cover is of light green canvas, and will cost 2/6 per vol., the usual price being 3/3. Subscribers will please send the parts direct to Fazakerley's.

UNIVERSITY OF LIVERPOOL

Vol. V. Nos. 3–4

EDITED BY
P. E. NEWBERRY
IN COLLABORATION
WITH
F. P. BARNARD
R. C. BOSANQUET
J. G. FRAZER
T. W. GANN
J. GARSTANG
C. F. LEHMANN-HAUPT
J. G. MILNE
T. G. PINCHES

PUBLISHED
JANUARY, 1913

ANNALS
OF
ARCHAEOLOGY
AND
ANTHROPOLOGY

*Issued by
The Liverpool
Institute of Archaeology*

LIVERPOOL: AT THE UNIVERSITY PRESS
LONDON: CONSTABLE & COMPANY LTD.

LIVERPOOL UNIVERSITY INSTITUTE OF ARCHAEOLOGY

Annals of Archaeology and Anthropology

These Annals are designed for the publication of the results of studies undertaken in connection with the Liverpool University Institute of Archaeology.

They include preliminary Reports of the Expeditions and Excavations undertaken on behalf of the Institute or by members of its staff; and also more detailed descriptions of the materials collected in the course of these enquiries.

They will also include Reviews of the principal archaeological publications which bear upon those departments of archaeology and anthropology upon which members of the Institute are engaged.

It is hoped also that it may be possible to print occasional Summaries of the work which is being done by other Societies and Institutions in these fields of enquiry. Such reports will usually be compiled by members of the staff of the Institute; but the opportunity will be taken of securing such reports also from other students who are best fitted to supply them.

The Annals usually appear in four quarterly sections, but the Editor reserves discretion to issue two or more sections simultaneously according to the special needs of the moment.

Each section of the Annals will consist of not less than 32 pages of printed matter and four full page plates. But it may be convenient to issue, in a particular number, either more plates or more letterpress according to the character of the communications contained in the section.

The annual subscription to the Annals is Ten Shillings and Sixpence, but each quarterly section may be obtained separately at 3s. and double sections at 6s.

Subscriptions will be received by the University Press of Liverpool, 57 Ashton Street, Liverpool; or by the London Agents of the University Press, Messrs. Constable & Company Ltd., 10 Orange Street, Leicester Square, London, W.C.

APR 8 1913

CONTENTS

PAGE

Supplementary List of Jettons. F. P. Barnard, M.A. (*With Plate XII*) 97

Note on a Vase of Minoan Fabric from Abydos (Egypt). John Garstang, M.A., D.Sc. (*With Plates XIII, XIV*) 107

Are we justified in speaking of a Megalithic Race? T. Eric Peet, B.A. (*With Plate XV*) 112

A Cypriote Fibula of the Early Iron Age, now in the Ashmolean Museum. John L. Myres, M.A. (*With Plate XVI*) ... 129

Some Cults of Prehistoric Egypt. Percy E. Newberry, M.A. 132

List of Vases with Cult-Signs 137

Double Part: Price Six Shillings

The price of Volumes I, II and III of these Annals has been raised from Ten Shillings to Twenty Shillings.

The price of Volume IV has been raised from Ten Shillings and Sixpence to One Guinea. The price of Volume V will be similarly raised at the end of 1913.

BINDING.—Subscribers wishing to bind Vols. I, II, III, IV and V can have these bound at a special rate by Messrs. Fazakerley, Bookbinders to the University of Liverpool, Paradise Street, Liverpool. The cover is of light green canvas, and will cost 2/6 per vol., the usual price being 3/3. Subscribers will please send the parts direct to Fazakerley's.